HYPNOTHERAPY WITH NOCTURNAL ENURETIC BOYS.

Thesis submitted to the Department of Psychology, University of Cape Town, in partial fulfilment of the requirements for the Degree of Doctor of Philosophy in Psychology.

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A B S T R A C T.

The main objective of the present study was to provide an adequately controlled experimental and clinical study to assess the efficacy of hypnotherapy in the treatment of nocturnal enuresis. Hypnotherapy was operationally defined in terms of current research in hypnosis. Subjects were 48 nocturnal enuretic boys, aged 8 to 13. Treatment consisted of six standardised sessions, one hourly session per subject per week. Results indicated that hypnotherapy was significantly more effective in decreasing (a) nocturnal enuresis, compared with both pretreatment base line enuresis frequency and a no treatment control (b)maladjustment. Secondary enuretics were found to be more maladjusted than primary enuretics, responded better to hypnotherapy, yet relapsed more after treatment. Comparisons with other studies indicated that hypnotherapy was a desirable short term clinical alternative to more established psychotherapeutic, psychopharmacological and conditioning methods of treatment.

I N D E X.

SUMMARY.

INTRODUCTION.

Nocturnal enuresis or bedwetting is a common childhood problem. It is more common in boys than girls after the age of five (Oppel et al, 1968). Approximately five per cent of all children wet their beds three or more times a month at the age of ten (de Jonge, 1973). A distinction commonly made in research in enuresis is that of primary and secondary enuresis. The first refers to persistant wetting from birth, the second to the reappearance of enuresis after a period of continence (MacKeith, 1968).

There is evidence that the two types of enuretics differ with regard to etiology, personality characteristics and therapeutic responsiveness. While there is controversy over the etiology of primary enuresis, most current researchers agree that secondary enuresis has a mainly psychogenic basis (MacKeith 1968, 1972, 1973; Rutter et al, 1973; Kolvin et al, 1972, 1973). There is evidence that secondary enuretics are more emotionally disturbed than primary enuretics (Kolvin and Taunch, 1973), respond better to treatment of a more psychological nature yet relapse more than primary enuretics after treatment (Novick, 1966; Shaffer et al, 1968).

There are various methods of treatment for nocturnal enuresis, all of which seem to have limitations. Psychotherapy has not been found to be significantly more

effective than spontaneous remission (Werry and Cohrssen, 1965; De Leon and Mandell, 1966). Both psychopharmacological and conditioning treatment have high relapse rates (Turner, 1973; Blackwell and Currah, 1973).

Some or other form of hypnotherapy has been used for many years in the treatment of nocturnal enuresis (Ambrose and Newbold, 1968; Wolberg, 1948) and there is evidence for its utility and efficacy (Lazarovici, 1971; Hartland, 1971). However, there has been no adequately controlled experimental research in the area.

There are currently two distinct paradigms[1] in research on hypnosis (Spanos and Chaves, 1970). The traditional"trance paradigm" views hypnotic behaviour as being qualitatively different from waking behaviour. On the other hand Barber (1965, 1970) has been able to demonstrate experimentally that certain "task motivational" instructions aimed at enhancing expectancies,attitudes and motivations administered in the waking state, had as significant an effectiveness on responsiveness to test suggestions as what has been traditionally known as a "hypnotic induction", i.e. suggestions of eye heaviness, eye closure, relaxation, drowsiness, sleep and a unique state of deep trance.

The aim of the present study was to assess the effectiveness of hypnotherapy with nocturnal enuretic boys

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1 The term paradigm is used in the sense of a set of basic assumptions, both implicit and explicit, shared by scientists working in an area of enquiry, together with a related set of criteria for asking meaningful questions and selecting research topics (Kuhn, 1962).

under controlled experimental conditions. Hypnotherapy was operationally defined in three forms:-

(a) A hypnotic induction (H) followed by suggestions (+) aimed at decreasing enuresis and maladjustment (Treatment condition H+). There is consistant evidence for an association between enuresis and emotional disorder or maladjustment (Shaffer, 1973).

(b) "Task motivational" instructions aimed at enhancing expectancies, attitudes and motivations given in the waking state (W) followed by suggestions (+) aimed at decreasing both enuresis and maladjustment. (Treatment condition W+). This form of hypnotherapy constituted a direct application of Barber's (1965, 1972) experimentation and theory in the clinical situation.

(c) The induction of hypnosis without any suggestions following it (Treatment condition H).

Subsidiary aims were to provide further research on the primary/secondary enuretic distinction (Kolvin and Taunch, 1973) and the issue of whether hypnosis is a special state qualitatively different from the waking state or not (Barber, 1972).

HYPOTHESES: The main hypotheses of the present study were that hypnotherapy, as defined above, would result in a significant decrease in nocturnal causes and maladjustment as compared with :-

(a) pretreatment base-line enuresis frequency and

(b) a no treatment control (treatment condition NT).

1. The Barber Suggestibility Scale (Barber, 1965).
2. The Children's Hypnotic Susceptibility Scale (London, 1962).
3. "Diagnostic ratings of hypnotizability" (Orne and O'Connell, 1967).

Suggestions aimed at decreasing both enuresis and maladjustment[1] (for treatment conditions H+ and W+) which were administered in the third, fourth, fifth and sixth treatment sessions, were standardized by means of a tape recorder. These suggestions were compiled in keeping with current research and theory on enuresis (Kolvin, MacKeith and Meadow, 1973) and hypnotherapy (Hartland, 1971; Meyer and Tilker, 1969). They were specifically geared towards the reinforcement of positive behavioural changes (Meyer and Tilker, 1969). Regular telephonic and postal contact enabled full enuresis records to be obtained for all subjects for the duration of the research. These had a pretreatment range of eleven to twenty-one weeks and extended for at least six months after treatment.

RESULTS: Hypnotherapy, as defined above, resulted in a significant improvement in nocturnal enuresis as compared with :-

(a) pretreatment base-line enuresis frequency.

(b) no treatment (control condition NT).

The improvement in enuresis was significantly

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1 "Maladjustment" was defined in terms of measures on the psychological tests; neuroticism as measured on the Junior E.P.I. and CPQ, anxiety as measured on the CPQ, and behavioural deviance as measured on Child Scale A.

apparent over the treatment period and was maintained for six months after treatment. In addition, hypnotherapy resulted in a significant decrease in maladjustment as measured on two of the three psychological tests (neuroticism as measured by both the Junior E.P.I. and CPQ).

Reason for the significant improvement in enuresis was adduced. This would appear to have been owing to the tape recorded suggestions aimed at decreasing enuresis and maladjustment, when preceeded by certain appropriate antecedent conditions; the enhancement of positive expectancies, attitudes and motivations. One form of hypnotherapy, which explicitly incorporated these antecedent conditions (treatment condition W+) was significantly more effective than no treatment over the six month follow-up period. Thus support was provided for Barber's (1965, 1972) experimentation and theory in this clinical application of his alternative paradigm.

Secondary enuretics were found to be generally more maladjusted than primary enuretics, and responded better to hypnotherapy, yet tended to relapse more after treatment. These findings support current theory and research indicating that primary and secondary enuretics differ with regard to personality characteristics and therapeutic responsiveness (Kolvin and Taunch, 1973; Kolvin et al., 1973; Shaffer et al., 1968; Novick, 1966).

In order to generalize the results of the present study, comparisons were made with a number of other

studies (Werry and Cohrssen, 1965; De Leon and Mandell, 1966; Kolvin et al., 1972), dealing with other methods of treatment and the calculation of outcome in terms of "cure". Hypnotherapy was found to be significantly more effective than brief psychotherapy. It would appear to have been superior to imipramine (the most common psychopharmacological agent used) in that while not being as initially effective, there was no startling relapse phenomenon after treatment. In general hypnotherapy would appear to have resembled the supposed conditioning effect (Turner, 1973) of the "buzzer" (an electrical alarm system for waking children when they wet at night), although cure and improvement rates were not as high.

CONCLUSION: This research satisfied its main objective of providing a controlled study assessing the efficacy of hypnotherapy with nocturnal enuretics. Comparison with other studies provided reliable generalization of results. In view of comparable efficacy with more established psychopharmacological and conditioning treatment, it was indicated that hypnotherapy would appear to be a desirable alternative method of treatment for nocturnal enuresis.

INTRODUCTION

1.1 Definition and Classification of the Enuretic Disorders of Childhood.

Nocturnal enuresis or bedwetting has undoubtedly occurred since man's earliest days but historical reviews trace the earliest reference back to the Papyrus Ebers which is dated 1550 B.C. (Glicklich, 1951; Salmon, 1971). Nocturnal enuresis has traditionally been viewed as a homogeneous entity. More recently, there have been increasing attempts at classification and differentiation, with the recognition that different types of enuresis may be associated with different etiologies, natural histories, personality characteristics, prognoses and therapeutic responsiveness. Important distinctions such as enuresis diurna and enuresis nocturna, and primary and secondary enuresis are now recognized. Primary enuresis refers to persistent, continuous bedwetting while secondary enuresis refers to onset or acquired wetting. The criteria for the "dry interval" in the case of secondary enuresis varies. Some authors accept six months (Martin, 1966; Novick, 1966), but most insist on a minimum of twelve months. de Jonge (1971) has included a third category, "intermediate", which refers to enuretics who had a dry period ranging from three to twelve months.

According to the traditional medico-psychiatric view, nocturnal enuresis is a symptom of generalized disorder, when there is no associated organic pathology (Kanner, 1955; Hill, 1961). However, this explanation has now been seriously questioned, since several carefully conducted studies have failed to reveal a significant relationship between enuresis and maladjustment, i.e. while there is an excess of psychiatric disorder in enuretic children, especially among older children,

the majority of enuretics are found to be psychiatrically normal. (Hallgren,1957; Werry and Cohrssen, 1965; Lapouse and Monk, 1959; Rutter et al. 1973; Kanner, 1961; Barbour et al., 1963; Lickorish, 1964). This fact together with the pronounced age-incidence curve (Lovibond, 1964; de Jonge, 1973) provide a strong case for classifying enuresis generally as a developmental disorder, at least when it occurs in isolation (Rutter, 1965; Kolvin and Taunch, 1973; MacKeith, 1964, 1968). In view of recent controversy over the use of the terms "developmental disorder" and "maturational delay" (MacKeith, 1972, 1973; MacKeith et al. 1973), it should be pointed out that the term is used here purely in the descriptive rather than aetiological sense. Regarding aetiology it would seem apparent that enuresis is multifactorial in origin - as will be indicated in later discussion.

Definitions of nocturnal enuresis have the problem that at an earlier age bedwetting is undubitably normal or physiological (see Jones, 1960; Yeates, 1973, for an analysis of the physiology of nicturition and development of bladder control) whereas at a later age it is abnormal or pathological. Where there is no organic impairment, there are various criteria that have been used designating bedwetting as abnormal; aetiological, age, functional and operational criteria (Kolvin and Taunch, 1973). Not enough is known as yet about the etiology of nocturnal enuresis, and cut off points for an age or operational criterion are arbitrary and deny a possibly "normal" minimum wetting frequency thereafter. Such problems lead Bransby et al (1955) to operationally define enuresis as wetting occurring once a month in the month preceding the interview.

1.2 Epidemiology Of Nocturnal Enuresis.

Nocturnal enuresis (hereafter referred to as simply enuresis unless otherwise stated) is a common childhood problem. Generally speaking the recorded incidence varies a little from country to country depending probably upon definition and method of assessment (Gerrard and Zaleski, 1969). Although most children achieve nocturnal continence by the age of four, epidemiological surveys have indicated that approximately 10% of Swedish (Hallgren, 1957), 23% of British (Miller et al, 1960), 30% of North American (Oppel et al, 1968) and 33% of Australian children (Hawkins, 1962), still wet their bed at least once a week at this age.

The epidemiology of enuresis provides knowledge as to the normal process of bladder control maturation. Where there is no therapeutic or other intervention, the relation between age and incidence of enuresis reflects the spontaneous course of the problem. From this age distribution, spontaneous remission rates at various ages can be deduced (e.g. de Jonge, 1973a; Lovibond, 1964) and used in the evaluation of therapeutic outcome.

A comprehensive review of the available publications (de Jonge, 1973) has shown that comparisons of results offer difficulties, owing to differences in the methods of investigation (who is interviewed, how, etc.)and variation in the criteria of enuresis applied (once a week, once a month etc.).

Some central conclusions can be drawn from the various surveys :-

1. Nocturnal enuresis can persist throughout the pediatric age range and sometimes into adulthood. Based on various

epidemiological surveys, the average incidence in boys ages 8 through 12 for example, with which the present study is concerned, seems approximately 9%, using a criteria of at least one wet night per week (Forrester, 1964; Hawkins, 1962; Thorne, 1944: de Jonge 1973). Despite a slowly declining incidence with age, over 2% of children are still wetting their beds at the age of 15 (Turner, Young and Rachman, 1970; Thorne, 1944; Lovibond, 1964) and, although the samples may be biased, surveys of American and British male military recruits suggests that even in adulthood (i.e. ages 17 - 28) the incidence may be as high as 1 - 3 per cent (Thorne, 1944; Levine, 1943; Plag, 1964).

2. This high incidence correspondends with low spontaneous remission rates. On the basis of all published data, de Jonge (1973) estimates that for the age period $6\frac{1}{2}$ to 12, the average chance that a child with nocturnal enuresis will spontaneously achieve bladder control within a year is 13.5%. In his own study of 10,000 children in Eindhoven and surroundings, de Jonge (1971) obtained a 15% spontaneous remission rate for this age group (using the enuresis criterion of more than three wet nights per month). Lovibond (1964), using data obtained from Canada (Bransby et al., 1955), Norway (Hallgren, 1957), and Australia (Hawkins, 1962), obtained slightly higher figures; for example an average of 17.8% spontaneous remission for ages 6 to 12. However this is still considerably lower than Eysenck's (1952) spontaneous recovery rate (40% per year) for neurotic illness.

3. Nocturnal enuresis is more common in males than in females, especially up to the age of 11 (de Jonge, 1973, 1971b; Addis, 1935; Weiss, 1936; Schaper, 1955; Hawkins, 1962; Oppel et al. 1968).
4. The primary/secondary enuretic distinction (i.e. persistent vs. onset) was first reported in the medical literature by Thursfield (1923). It has been receiving increasing prominence in theory construction and research (Novick, 1966; Hallgren, 1957; MacKeith, 1964, 1968, 1972; Kolvin and Taunch, 1973; Kolvin et al. 1973). Although the figures vary, secondary enuresis (defined in terms of a dry period of one year or more), exists in approximately 20 per cent of all cases of nocturnal enuresis after the age of four (de Jonge, 1973).

1.3 Nocturnal Enuresus As a Psychosomatic Entity.

Nocturnal enuresis is an intriguing condition, since it epitomises the problems of what is popularly called "psychosomatic medicine", which has the implicit assumption that there is no disease ("dis-ease") without psychological reverberations (Engel, 1967; Wittkower et al., 1969). As Engel (1967) points out, psychosomatic research is still far away from adequately measuring inter-relationships between psychological processes, let alone interactions across the psychological and somatic "interface". (The very term emphasises the dualistic barrier the psychosomatic movement is attempting to overcome).

While definitions and diagnoses of nocturnal enuresis pose no real problems, besides variation among researchers, the same is not true for psychopathology in childhood, which usually appears as a widespread disturbance of functioning in several different areas, and is related to the number, duration and severity of symptoms (Shaffer, 1971). In addition there are the specific research problems with regard to the diagnosis of psychopathology such as the validity of measurement techniques, sampling biases etc. (Werry, 1967).

If the aim is to identify simularity of sequence of psychological and somatic phenomena, there are a variety of possible psychosomatic relationships : i.e. if psychopathology and enuresis have been demonstrated to co-exist in a child, the relationship may be psychogenic, psychoadditive (where the psychopathology is prolonging the enuresis), somatopsychic or reactive (psychopathology occurs

as a result of the enuresis), psychosomatic - somatopsychic, (for example the psychological cause of the enuresis, now co-exists with a secondary psychological reaction to the enuresis) or merely a coincidental occurrence of psychopathology and enuresis (Werry, 1967).

There are possibilities in attempting to ascertain the nature of the relationship when the variables psychopathology and enuresis are found to co-exist in a certain child. When we go further and attempt to ascertain direct etiological factors the position becomes even more complicated, as "man is complex and a ' priori', his symptoms are likely to be multi-factorial in origin in that any symptom may be due to different single main causes or to different combinations of causes". (MacKeith, 1968). (E.g. a prior genetic factor being necessary and interacting with later psychological stress to cause enuresis). In addition the discussion of the etiology or cause of any symptom may be further confused because while the symptom may continue the cause may change.

Werry (1967) and Shaffer (1973) have undertaken reviews of studies on the association between nocturnal enuresis and psychopathology and conclude that psychopathology is more common in enuretics than non-enuretics after the age of 9. This conclusion is further reinforced by studies (Hallgren, 1957; Rutter et al., 1970) showing that psychiatric disorder is more common among children with both diurnal and nocturnal enuresis. However, as mentioned before, the majority of enuretics are found to be psychiatrically normal. This incidence varies; (55% (Werry, 1965), 60% (Werry, 1967); (Hallgren, 1957), 73% (Kolvin et al. 1971). Thus while there

does seem evidence for an association between nocturnal enuresis and maladjustment (Michaels and Goodman, 1934; Hallgren, 1957; Stein and Susser, 1966; Werry, 1967; Rutter et al., 1973) this association is by no means certain, in view of contradictory evidence from a number of well controlled studies in which no significant asssociation was found (Hallgren, 1957; Tapia et al., 1960; Lovibond, 1964; Baker, 1969). Future research should clarify this.

In those children with psychiatric disturbance it is difficult to find any specificity in the disturbance, with regard to both major psychiatric syndromes such as neuroses (Rutter et al., 1970), or more simple habit disorders such as nailbiting (Hallgren, 1957; Rutter et al., 1970). There does seem to be a commonly reported association between enuresis and "immature behaviour" such as speech delay (Hallgren, 1957) but the research in this area is inadequate and poorly defined. However, regarding personality and social difficulties, projective tests have shown reasonably consistently that enuretic boys are more acquiescent and less outgoing than non-enuretics (Shaffer, 1973).

Regarding the nature of the psycho-somatic association, a psychogenic relationship has long been recognized, especially by more traditional psychodynamic theorists. Psychological stress would seem to play a large part in the genesis of onset enuresis (MacKeith, 1968). However factual research in well controlled studies (de Jonge, 1969), Hallgren, 1957) showed that only 50 and 55% of their onset cases respectively were precipitated by an event likely to have an emotional effect on the child. With

the exception of Paulett and Tuckman's(1958) study in which pregnancy was reported as a frequent trigger[1], these precipitants have been quite diverse and non-specific (Werry,1967, Kolvin and Taunch 1973)This has lead some authors to postulate a constitutional predisposition as additionally necessary in order to obtain a more complete etiological picture for secondary enuresis (Werry, 1967; Kolvin and Taunch 1973). Shaffer (1973) has been circumspect in emphasizing a reactive nature to the psychosomatic relationship on the grounds that :-

(1) psychiatric symptomatology has been found to be more common in the later years of childhood (Grant, 1958) and

(2) the studies he reviews which showed beneficial changes after treatment, do not deal with changes in enuretic children with major degrees of maladjustment.

However, Shaffer's review has included a much neglected psychosomatic association, i.e. the association between enuresis and emotional disorder may be due to the presence of common antecedents to both conditions, as enuretics share with delinquents and children with other forms of psychiatric disorder an increased frequency of family disorganization, a history of early stress experiences and an adverse social class bias. However there is a qualification again, as in the case of secondary enuresis mentioned above. A genetic factor might be prior, as Hallgren (1957) found that the parents in such broken homes convey a significant genetic loading for enuresis.

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1. In this study, a direct association between onset enuresis and maternal pregnancy (or fear of pregnancy) reached 80%.

As no common psychopathology underlying nocturnal enuresis has been ascertained, so the search for a common structural pathology has been equally illusive. This will be discussed in more detail later. Thus, in the light of evidence from the vast amount of research on enuresis, both contemporary and historical, there has been the important general acceptance by current researchers that nocturnal enuresis is heterogenuous and usually multifactorial in origin, i.e. in the sense that several factors have been or are together responsible for the sympton. (MacKeith, 1968; Werry, 1967; Kolvin and Taunch, 1973; Turner, 1971). Future research is needed to demonstrate unequivocally an association between nocturnal enuresis and maladjustment.

1.4 Towards The Etiology of Nocturnal Enuresis.

Major advances in research into nocturnal enuresis have occurred in the last twenty-five years. As in the past (Glicklich, 1951; Salmon, 1971) a variety of etiological theories have been proposed, which are usually not mutually exclusive. For convenience, these can be classified into:- theories attempting to assign enuresis to a structural; genetic or pathological etiology, as opposed to the more psychologically oriented theories, e.g. maturational, habit deficiency and psychogenic theories. These will be discussed in terms of current research and partly following Kolvin and Taunch, (1973) with special reference to the primary/secondary enuretic distinction.

Genetic and Pathological Theories.

Hallgren's (1957) clinical and genetic study showed evidence of familial transmission since the morbidity rate for nocturnal enuresis was significantly higher among his subjects' immediate family than in the general population. Twin studies, while giving no clear evidence of any simple or strong pattern of inheritance (Hallgren, 1960), do show a genetic basis for enuresis as Bakwin (1973) reports a statistically significant pattern for monozygotic as compared with dyzygotic twins. Hallgren (1957) emphasises a heterogenuous etiology: despite "non genetic" cases, his study points to a 'nuclear' group of cases in which nocturnal enuresis is "genetically determined", and there is a significant trend for primary nocturnal enuresis to be familial in a larger proportion of cases than acquired nocturnal enuresis (Hallgren, 1957; Kolvin et al., 1973).

Recent researchers have indicated a high incidence (over 50%) of uropathology in their series of enuretic children (Smith et al., 1973; Murphey, 1970; Mahoney, 1971). However criteria applied prior to the diagnosis of obstruction or infection have varied. Positive family histories of uropathology have been reported (Zaleski et a. 1973; Barbour et a., 1963). However, it would seem that physical defects of the urinary tract are not decisive factors in the persistance of enuresis, as a longitudinal, five year follow-up study (Barbour et al., 1963) has shown that many children with physical defects achieve spontaneous remission without therapeutic intervention. While not denying the importance of organic causation in a small minority of the enuretic population, it would seem that physical factors are generally most likely merely precipitating factors in making latent enuresis manifest (Yeates, 1973; Jones et al. 1972). Angell (1969) has argued similarly that minor physical defects are irrelevant provided there is "otherwise normal control of micturition, no other disabilities such as frequency or urgency by day and sterile urine". Further Kuzemko (1967) and Starfield (1967) do not report a high incidence of enuresis in children with clear organic pathology. Regarding the primary/secondary enuretic distinction, Oppel et al. (1968) have shown that primary enuretics are more likely to have some physical defect.

Various studies have shown that enuresis could be attributed to small functional bladder capacity(Muellner, 1960; Starfield, 1967) which develops through both maturation and voluntary control. This theory has been augmented recently;

the small capacity bladder has been viewed as being caused by detrusor muscle spasm, an allergic phenomenom brought about by parasympathetic overactivity (Gerrard and Zaleski, 1969; Esperanca and Gerrard, 1969). When considering the theory from an etiological point of view, it has been criticized in that enuresis could cause the lower functional bladder capacity (Bakwin, 1961) and some children with reduced bladder capacities do not wet the bed (Kolvin and Taunch, 1973).

Clinical observations have lead to contradictory conclusions on the widely held postulate that enuretic children sleep more deeply than non-enuretics (Boyd, 1960; Graham, 1971; Duche, 1971). Also studies have been limited to the child's arousability and other measures of depth of sleep (Graham, 1971). "Pure" electrophysiological research has indicated that apart from R:E.M. sleep, during which wetting does not seem to occur, enuretics wet at all stages of sleep (Ditman and Blinn, 1955; Ritvo et al., 1969). However with qualifications, greater depths of sleep are broadly associated with primary as opposed to secondary enuresis (Ritvo et al., 1969; Kolvin et al., 1973.)

Although the incidence of abnormal electro-encephalographic recordings vary from author to author, the incidence in nocturnal enuresis is probably greater than 50% overall (Salmon 1971). A relationship between epilepsy and enuresis has not as yet been established (Hallgren, 1957; Poussaint et al., 1967; Poussaint and Greenfield, 1966). Electroencephalographic changes are most likely to be found in primary rather than secondary enuresis (Salmon, [illegible] et al., 1973; Fermaglich, 1969). Generally, it is considered that most of the abnormalities found represent defects in

maturation or maturational delay (Salmon, 1973) and "the common 'diffusely abnormal' recording is probably an expression of E.E.G. immaturity resulting from inhibited cortical development"(Salmon, 1971).

In conclusion, recent genetic research and research with physical pathology towards the etiology of nocturnal enuresis emphasises its complicated heterogenous etiology. Again there is the finding that in the majority of enuretics no obvious explanation is apparent.

Psychogenic, Habit Deficiency And Maturational Theories.

The more traditional esoteric psychodynamic theories postulated a psychogenic etiology with enuresis serving :-

(a) a need for dependancy,
(b) a need for aggression against the parents,
(c) a substitute form of repressed genital sexuality,
(d) a direct manifestation of deep seated anxieties and fears, etc. (Mowrer, 1950; Winnicott, 1953).

As previously ascertained, there is little evidence for a general emotional basis for nocturnal enuresis. These specific hypotheses usually derive from "uncontrolled clinical impressions" (Kolvin et al., 1973). One occurrence that would support a more qualitative, "unconsciously determined" emotional etiology would be that of "symptom substitution" after symptomatic treatment. However, collective research from a number of studies measuring the psychological effects after conditioning treatment (Berle et al., 1956; Martin and Kubly, 1955; Lovibond, 1964; Novick, 1966; Werry and Cohrssen, 1965; Baker, 1969) seem to be remarkeably congruent in showing that when changes occur they are usually beneficial

and that although new emotional or behavioural symptoms may develop in a minority of children they are usually of short duration (Werry, 1967).

The psychogenic theory has been recently revised and modernized by MacKeith (1964, 1968) in a highly parsimonious and unifying theory, which gives the same general cause to both primary and secondary enuresis : "anxiety in the third year of life" (MacKeith, 1968) with emphasis on the quantitative rather than qualitative nature of the anxiety (Werry, 1967). Central to this theory is the ethological idea of a "sensitive learning period" (Hinde, 1962). In keeping with the Yerkes, Dobson Law (1908) - although anxiety may assist learning there is an optimal level beyond which an increase in anxiety will reduce the capacity to learn - this concept of a sensitive period explains both the common acquisition of dryness during the 1 to 5 year age range, and the subsequent period when learning is difficult.

"For each skill there is probably a normal range of ages of acquisition, largely determined by inherent genetic factors, and some 'developmental delay' in maturation or learning of skills is probably not inherent but acquired as a result of disturbances of learning at a sensitive period, leading to a disorder of development lasting for a number of years" (MacKeith, 1964).

MacKeith's (1968) psychogenic hypothesis is based largely on the work of Douglas (1967) for empirical support. While this research provides definite evidence for an association between "early stressful events" and later enuresis (Douglas, 1967, 1973), generally empirical research

is still far away from providing an etiological picture for all (non-organic) primary enuretics, let alone secondary enuretics, as discussed in Section 1.3, and further research is needed in this area. However, Brazelton's (1962, 1973) longitudinal study (which focussed on an anxiety-free method of toilet training and achieved a 1.5% incidence of enuresis as opposed to the usual 9% finding at the age of 5 (Brazelton, 1962) would seem to indicate a substantial future for MacKeith's theory.

The basic "habit deficiency" or learning theory position (Turner, 1971; Young, 1965; Jones, 1960; Lovibond, 1964) as regards the etiology of nocturnal enuresis is that enuretic children have failed to acquire voluntary control owing to :-

1. The absence of the appropriate conditions for learning to occur, i.e. (a) faulty learning. Research has for the most part compared enuretics with non enuretics in terms of toilet training history (e.g. Lovibond, 1964; Sears et al., 1957) and no differences have been found. This is not suprising owing to the retrospective nature of most studies, imprecise definitions of training and inadequate attention paid to the physical maturation of the child (Turner, 1971). A more worthwhile avenue of research for the learning hypothesis would seem to be to focus on how children learn to be dry once an adequate level of physical maturation has been reached (Turner, 1971). While in general "we are still very ignorant about how a child learns to be dry" (Meadow, 1971), research has suggested that learning <u>can</u> be facilitated by simple reward routines for being dry or success in urinating in the toilet (Pomroy and Pomroy, 1965).

(b) a low level of conditionability. This Eysenckian (1957) hypothesis has received only limited support from recent research, (Kolvin et al., 1973; Lovibond, 1964). According to Eysenckian (1957) theory poor conditionability is associated with extraversion. Young (1965) was able to show that extraversion in enuretic children, was significantly related to high relapse rates. Kolvin et al. (1973) were not able to show significant correlations between enuretic introversion and improvement or familial introversion and enuretic improvement.

2. Breakdown of the learning due to psychological stress. This has already been discussed (MacKeith, 1964, 1972).

As is already evident, habit deficiency and maturational theories would seem complementary rather than alternatives to each other as development has two facets; maturation of a physical substrate and an experiential or learning component (Werry, 1967; Kolvin and Taunch, 1973; Turner, 1971).

Barbour et al. (1963) have made a strong case for regarding enuresis as a developmental delay as "the disappearance of the symptom is dependent more upon age than therapeutic intervention and the abnormalities found by 'comprehensive' investigation serve only to delay the gaining of bladder control rather than prevent its occurrence".(Barbour et al., 1963).

With individual variations most current researchers regard enuresis mainly as a disorder of maturation and the influence of multiple factors on the developmental delay is emphasized (Barbour et al.,1963; Kolvin et al. 1972):- familial genetic influences (Bakwin, 1961; Hallgren, 1957), somatic

immaturity in terms of E.E.G. immaturity (Salmon, 1971), faulty learning (Bakwin, 1961), early stressful events (Douglas, 1967, 1973; Young, 1965; MacKeith, 1968) the presence of minor anatomical defects (Barbour et al, 1963 etc.)

MacKeith (1968,1972,1973) has argued against simple maturational delay explaining primary enuresis after the age of 6 as this would be over-extending the normal variation of $1\frac{1}{2}$ to 4, or even 1 to 5 years during which continence is achieved. Kolvin et al (1973) have postulated in turn an extreme variation in maturation leading to a delay in readiness of the child to acquire a new skill and have revised the habit deficiency theory to "delayed learning of a habit pattern", i.e. the "mechanisms" necessary for learning continence may only be <u>available</u> at a later stage of development and this may be genetically determined. This could still be criticized (MacKeith, 1968), if it is argued that the mechanisms are mature in those children who do not wet the bed in an unfamiliar environment (Stein and Susser, 1967; Olejnik, 1971).

Possibly the most important implication of recent research has been the emphasis on the primary/secondary enuretic distinction (Kolvin and Taunch,1973; Kolvin et al., 1973. In their dual theory, Kolvin and Taunch, 1973, envisaged nocturnal enuresis as consisting of two separate disorders, primary enuresis explained in terms of maturational delay and a psychodynamic theory of secondary enuresis. They have concluded, somewhat circumspectly, that only limited support can be offered for all aspects of the theory. However, it would seem that nocturnal enuresis does

consist of at least two different populations of children. Overlap between the two populations (for example, early stress factors operating in the case of primary enuretics (MacKeith, 1968) and some familial factors in secondary enuresis) as well as variations within the populations (heavy vs. light sleeping primary enuretics (Ritvo et al., 1969), for example) casts doubts on their homogenuity and future research will undoubtedly lead to further differentiation.

Currently, however, the importance of the distinction should not be undervalued, however, if the etiological picture is not so clear. In terms of personality characteristics, there is evidence that secondary enuretics are more maladjusted than primary enuretics (Hallgren, 1957; Kolvin et al., 1973). However this is by no means established. Kolvin et al. (1973), while obtaining significant correlations with the primary/secondary distinction on more specific variables such as "abnormal or unusual fears" did not obtain a significant (despite positive) correlation with their measure of "psychiatric disturbance". Some contradictory evidence is more worrying. Oppel et al. (1968) found "relapsed" or onset enuretics to be significantly less anxious and tense than their category of children who became dry late and did not relapse. Their primary or "never dry" category, on the other hand, were more sensitive and withdrawn than the "pernamently dry" group. Further research is needed to clarify this issue. There is somewhat conflicting data with regard to therapeutic responsiveness as well. Two studies reported that secondary enuretics respond better to imipramine (Shaffer et al., 1968), routine supportive treatment and conditioning treatment, with a faster

rate of enuresis decrease and higher relapse rates (Novick, 1966); while a more recent study (Kolvin et al., 1973), tentatively reported conditioning treatment being more successful with primary enuretics. The latter study did report a correlation of secondary enuresis with improvement, however, and in addition, irrespective of method of treatment, the more psychologically stable children respond better (Kolvin et al., 1973).

In overview, research and theory construction towards the etiology of nocturnal enuresis is extremely active, with increasing sophistication of newly generated hypothesis to suit the heterogeneous population being studied. The complex, heterogeneous etiology, the fact that improvement would seem more dependant on age than therapy, and the distressing rather than encapacitating nature of the problem in most cases, indicate a brief varied symptomatic approach to treatment for most children. Further research on the primary/secondary enuretic distinction, especially as regards personality characteristics and therapeutic responsiveness would seem one worthwhile avenue of enquiry.

1.5 Current Research And Theory In Hyprosis

Over the past century, there have been a variety of theories proposed to explain phenomena subsumed by the term "hypnosis". (See Chertok (1969) for a historical review). A tremendous resurgence of interest in the topic over the last twenty years has resulted in a paradigm[1] shift occurring in current research and theory with two divergent conceptualizations becoming scientifically distinct as to be regarded as independent scientific paradigms. (Chaves, 1968; Spanos and Chaves, 1970) :-

1. The traditional "hypnotic state" paradigm with adherents such as Bowers (1966), Gill and Brenman (1959), Evans (1968), Orne (1959), Meares (1963), Shor (1962), Hilgard (1969), Erikson (1967).
2. The more recent alternative paradigm which had antecedents in the work of Dorcus (1937), Pattie (1935, 1941, 1950), White (1941) and Sarbin (1950, 1951) and has matured largely through the work of Barber (1961, 1964, 1967, 1969, 1970) and co-workers.

The essential difference between the two paradigms is that the former views hypnotic behaviour as being fundamentally different from waking behaviour (which has lead to the postulation of a qualitatively different "hypnotic state" to explain certain phenomena), whereas the latter has not drawn a fundamental distinction between hypnotic and other

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1. The term "paradigm" is used in the sense of a set of basic assumptions, both implicit and explicit, shared by scientists working in an area of enquiry, together with a related set of criteria for asking meaningful questions and selecting research topics (Kuhn, 1962).

behaviours. Consequently research has been directed towards a re-evaluation of the whole range of hypnotic phenomena (Barber, 1970), and a thorough critique of the hypothetical construct "hypnotic trance" has resulted, with an emphasis on careful delineation of objective antecedent variables related to hypnotic behaviour. This section will be concerned with :

1. Some of the more important reconceptualizations and discensions and,
2. Will attempt to furnish a concise statement of the present position of the alternative paradigm which in the writer's view, is moving towards a position of dominance over the traditional paradigm.

One study (Barber, 1965), which epitomizes the essential difference between the two paradigms will be used to elucidate the various discensions and reconceptualizations both experimental (methodological) and theoretical which are currently dominating research in hypnosis.

This study (Barber, 1965), which provides an excellent example of Barber's method of experimentation, showed that certain "task motivational" instructions, i.e. instructions geared towards increasing positive attitudes, expectancies and motivations (which are conceptualized as normal psychological influence phenomena such as persuasion (Barber, 1972), given in the waking state,had as significant an effectiveness on a subject's response to test suggestions as a standard hypnotic induction procedure (suggestions of eye-heaviness, eye-closure, relaxation, drowsiness, sleep and deep trance, a unique state). Both were more effective than when no antecedent instructions were given, in a control

group. A randomized groups factorial design was used. The study emphasises a characteristic feature of Barber's experimtation, his focus on certain essential methodological criteria, necessary for scientific rigour of experimentation and unambiguous evaluation of results, formulated by Underwood (1957), and rephrased by Spanos and Chaves (1970) as :-

1. Clear denotability of antecedent variables.
2. Clear independent manipulation of antecedent variables.
3. Clear denotability of dependent variables.

As concerns 1 and 2; the "hypnotic induction" has been conceptualized as a set of variables which interact in a number of complex ways to facilitate response to test suggestions. This will be expanded on later. For example, concerning the study of 1965, the task motivational instructions are geared towards producing the following antecedent mediating variables :-

(a) positive attitudes, i.e. defining the test situation as a test of imagination and focussing attention on the subjects willing co-operation. "In this experiment I'm going to test your ability to imagine and to visualize. How well you do on the tests depends entirely upon your willingness to try to imagine and to visualize the things I will ask you to imagine" (Barber, 1965),

(b) positive expectancies,

"Everyone passed these tests when they tried" (Barber, 1965),

(c) positive motivations,

"What I ask is your co-operation in helping this experiment by trying to imagine vividly what I describe to you (Barber, 1965),

(d) and thinking with and vividly imagining the suggested effects as above.

As concerns 3., i.e. clear denotability of dependent variables, a suggestibility scale, the Barber

Suggestibility Scale (B.S.S.) was developed (Barber, 1965), which is not biased by test suggestions being worded to apply specifically to subjects who have received a hypnotic induction, as was the case with prior scales, e.g. the Stanford Hypnotic Susceptibility Scale (Weitzenhoffer and Hilgard, 1959, 1962) and the Harvard Group Scale of Hypnotic Susceptibility (Shor and Orne, 1962). In addition, the "B.S.S." can be administered after a wide range of antecedent conditions. The scale also provides for quantification of experiental subjective report, as well as objective scoring for the 8 test suggestions.

On a more theoretical level, Barber's latest exposition (Barber, 1972) contains his three main criticisms of Hypnotic State Theory :-

1. The consistent failure of state theorists to find any concomitant qualitative, e.g. physiological change associated with the hypnotic state. On the contrary Barber (Barber, 1970) has shown that the main findings indicate that physiological functions during the presumed special state vary in the same way as in non-special states. This has resulted in reconceptualizations of supposed indices of the hypnotic state such as "trance-like appearance" and "changes in body feelings". This will be expanded on later.
2. Taking our example study (Barber, 1965) into consideration, state theorists are forced to assume, ad hoc, that highly responsive control[1] or task motivated subjects, who have not had a hypnotic induction and do not appear to be in a trance, are actually in a trance.

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[1] One important demonstration from Barber's experimentation is that behaviours in the repertoire of hypnotic subjects can also be elicited from non-hypnotic subjects, i.e. demonstration of a high base level response (Barber, 1965).

However, this study has been criticized owing to :

1. Inadequate replication. Task motivational instructions used were merely "vividly imagine" which Barber and Calverley (1963, 1964) had already shown to be not as effective as task motivational instructions more specifically worded so as to increase positive attitudes, expectancies and motivations (Spanos, 1970).
2. The antecedent variables are confounded. Reports have shown (Sutcliffe, 1961; Barber, 1962) that a within-subjects design in hypnotic experiments does result in the different treatments affecting each other in various complex ways (Spanos and Chaves, 1970).

Another study (Edmonston and Robertson, 1967) is liable to a similar methodological criticism(see Spanos and Chaves, 1970).

Orne (1959, 1962) has attempted to delineate essential characteristics of the hypnotic state. His experimentation typically involves :-

a. A control group of poor hypnotic subjects who are given simulation instructions prior to a hypnotic induction.
b. An experimental group of good hypnotic subjects who are just given the hypnotic induction.

It is obvious how the antecedent variables are confounded as differences obtained between control and experimental groups could be owing to differences in pre-existing suggestibility levels, differences in instructions or an interaction between the two variables (Spanos and Chaves, 1970).

3. Consequently, Barber has argued that state theorists are left in a circular or tantologous position in having to advocate that subjects are said to be in a trance because they would show high response to suggestions, and a high response to suggestions is, in turn, explained as being due to the presence of hypnotic trance.

Methodological Dissensions:

The compelling strength of Barber's experimentation is demonstrated in a recent article (Spanos and Chaves, 1970) in which the authors have evaluated both paradigms in terms of the methodological criteria mentioned previously, which have been established independently of both paradigms (Underwood, 1957). The research of Hilgard and Orne was taken as representative of the hypnotic state paradigm.

Hilgard has criticised Barber (Barber, 1965) on the grounds that no significant differences were found between hypnotic and task motivational treatments owing to the insensetivity of Barber's randomised groups design. It was felt that small differences between treatments may be masked in such experiments owing to large intersubject variability (Hilgard, 1965). Using a within groups design in order to increase design sensetivity (i.e. running the same subject under different treatment conditions on different days) Hilgard and Tart (1966) were able to show that hypnotic induction procedures produced a slightly greater increase in suggestibility than task motivational instructions.

"trance-like appearance", reports of having been hypnotised, and changes in body feelings, traditionally viewed as indices of the hypnotic state (Barber and DeMoor, 1972), which has, in turn been viewed as a critical factor in producing heightened response to test suggestions. From the standpoint of the alternative paradigm, then, the phenomena are not necessary, i.e. have no direct effect in augmenting responsiveness to test suggestions. Any indirect effect is explained in that the phenomena arouse expectancies etc. which, in turn, heighten responsiveness to test suggestions (Barber and DeMoor, 1972).

A further criticism that has been levelled against Barber's experimentation is that Barber's results are often a function of experimenter bias (Spanos, 1970). This would seem rather an indictment against the current vast amount of research generated by the alternative paradigm. As Spanos (1970) has pointed out, no specific research directed towards this change has been undertaken by state theorists. It would seem that "investigator bias" would seem a more preferable term.

In summary, research generated by State theorists attempting to criticise Barber's methodology is itself subject to rather serious methodological criticisms when evaluated from a methodological standpoint independent of both paradigms. It is safe to conclude that neither the validity of Barber's findings nor the efficacy of his randomised groups design has been seriously challenged (Spanos, 1970). For unambiguous generalizability of his findings, however, further research would seem desirable.

Theoretical Dissensions.

A number of basic criticisms have been levelled against Barber's theoretical formulation (Spanos, 1970) :-

1. Barber's formulation has been characterized as a motivational view of hypnosis (Evans, 1968; Hilgard, 1969) and accordingly criticised.
2. Owing to Barber's randomised design (e.g. Barber, 1965) many subjects assigned to hyprotic treatments are probably "unhypnotizable" and do not enter a trance, or axiomatically
3. susceptible subjects in a control group may slip into a trance,
4. or, a third alternative, similar behaviours in hypnotic and control subjects may be produced by different psychological mechanisms for example, hypnotic subjects, owing to the trance state, really experience suggestions, whereas the behaviour of "experimental" subjects in a control group may be a function of expectations (Orne,1962, 1966; Bowers, 1966; Evans, 1968).

The first criticism is obviously an over-simplification of Barber's theoretical approach, as is already evident in this section, with Barber's attempt to delineate and measure numerous antecedent variables rather than attempt to use motivation or any single antecedent factor as a sufficient explanation for hypnotic phenomena (Spanos, 1970).

The main counter-arguments by the alternative paradigm against the second, third and fourth criticisms can be summarized as follows :-

1. The criticisms refer to ad hoc attempts by state theorists to incorporate Barber's anomolous findings within the

hypnotic state paradigm.

2. They are based on the assumption that the hypothetical construct "hypnotic trance" can be unambiguously and non-tautogically defined which is invariably not the case.
3. This need not necessarily be the case, if the "hypnotic state" is clearly viewed as a multidimensional explanatory theoretical construct (if. Cronbach and Meehl, 1955) which as such,is endowed with surplus meaning in the sense of "a network of hypothetical relationships that are to link it to various observables which are not exclusively composed of those used to infer its presence" (Tellegen, 1970). i.e.
   (a) "Each dimension of the 'state' should be denoted independently of other dimensions as well as independently of the behaviour which the dimension is supposed to explain".
   (b) "The empirical and theoretical interrelationships among the various dimensions should be unambiguously specified". (Spanos, 1970).
4. This has not been done as yet by state theorists. However Barber has been able to incorporate the various indices proposed (e.g. Conn and Conn, 1967; Tart and Hilgard, 1967) within this paradigm, as shown previously.[1]

In conclusion, as regards current research in hypnosis, the alternative paradigm is firmly entrenched and

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[1] See Spanos (1970a), Tellegen (1970), Spanos (1970b) for a more detailed discussion.

would seem to be moving towards a position of dominance over the traditional paradigm. Barber's essential contribution is that he has placed hypnosis research on a firm scientific framework. No future study in the area can afford to ignore his research.

1.6 The Treatment Of Nocturnal Enuresis.

The methods of treatment which have been applied to nocturnal enuresis are even more varied than the etiological theories when reviewed historically (Glicklich, 1951; Salmon, 1971). The complicated heterogeneous etiology of nocturnal enuresis, and consequent sophisticated diagnostic requirements in the clinical setting, has lead to increasing awareness that most therapeutic approaches are non-specific for the vast majority of enuretic children (Breger, 1962; Werry, 1967; Kanner, 1957), yet substantially beneficial for many. Once organic impairment has been ruled out, methods of treatment can be conveniently classified as follows :-

1. Conditioning treatment, i.e. various conditioning devices popularly subsumed by the terms "buzzer" or "bell and pad". (Turner, 1973; Dische, 1973).
2. Psychopharmacological treatment, with the tricyclic anti-depressants, notably imipramine being most popular.
3. Psychotherapy in various forms ranging from the psycho-dynamic treatment of the child (Werry and Cohrssen, 1965) to councilling with the mother alone (Paulett and Tuckman, 1958).
4. Various suggestive measures ranging from record keeping and reward to the use of hypnosis (Hartland, 1971; Lazarovici, 1971).
5. Various more empirical measures aimed at avoidance of enuresis (e.g. restriction of fluid intake, daytime retention of urine, lifting at night (Smith, 1971; Jones, 1960; Hartland, 1971; Bakwin, 1961; Evans, 1935) which are usually incorporated with one or more of the above treatments.

Conditioning treatment is generally accepted as the most effective method of treating nocturnal enuresis. It has been found to be more effective than either imipramine or placebo (Kolvin et al., 1971), dexedrine (Forrester, Stein and Susser, 1964), psychotherapy (de Leon and Mandell, 1966; Werry and Cohrssen, 1965) and supportive measures (Novick, 1966). A recent review of seventeen studies with 1,478 children showed that conditioning treatment is effective in bringing about the initial arrest (usually 14 dry nights consecutively) of enuresis in 81.4% of the children treated, with an average relapse rate of 26%(Turner 1973).The deceptiveness of both figures is apparent when the limitations of the method are considered :-

1. The serious problem of failure due to parental non co-operation (often owing to the disturbing effects of the buzzer on the sleep of the family). A recent study has reported a 47.6% drop out rate (Turner, Young and Rachman, 1970).
2. High relapse rates. As Turner (1973) has pointed out the figure quoted above (26%) is an underestimate, owing to the high correlation between length of follow-up and relapse. Other studies with long term follow-up data (Lovibond, 1964; Turner, Young and Rachman, 1970) have established more reliable relapse rates of around 50%.
3. The occurrence of "buzzer ulcers" (Gillison and Skinner, 1958; Borrie and Fenton, 1966; Forrester, 1966; Meadow, 1971).
4. Non-specific variables (e.g. gadget-effect, arousal effect, placebo-effect (Turner, 1971)). Various authors (e.g. Davidson and Douglass, 1950) have noted the influence of suggestive factors associated with conditioning treatment,

for example, some enuretics become dry during the very early stages of treatment before conditioning has been possible (Jones, 1960). Another study (de Leon and Mandell, 1966) has shown that the use of an unconnected conditioning apparatus alone produced a significant decrease in enuresis. Recent research has demonstrated no treatment effect over the first month when compared with a wake up control procedure (Baker, 1969; Turner, Young and Rachman, 1970) or when compared with a placebo alone (Turner, Young and Rachman, 1970; Kolvin et al., 1972). In the former study, placebo was actually more effective than conditioning treatment over the first month (Turner, Young and Rachman, 1970). This has lead to the conclusion that "response to conditioning treatment CAN be explained in terms of non-specific effects over the first month of treatment but thereafter a clear conditioning effect is demonstrable". (Turner, 1973). However the latter part of this statement is based on only one study (Baker, 1969) which covered only a ten week period. Moreover, in a recent study (Kolvin et al., 1972) a group of childrem administered a placebo, (in contrast to a drug regime) improved steadily over four months in a similar fashion to the conditioning group, although percentage improvement rates were not as high ! It is unfortunate that this study did not explore in more detail this placebo effect.[1] One way would have been to

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[1] There is controversy concerning the specific nature of the placebo effect. Blackwell (1971) has argued against its occurrence on the grounds of the spontaneous remission of a maturational disorder. He quotes seven psychopharmacological studies with base-line data which reported an absent or negligible placebo effect. To answer this question unequivocally, it would seem that the establishment of adequate base-line data is essential in all future studies.

follow up the improvement for a longer period of time to clarify such questions as whether a learning component was involved, or diminution of anxiety that prevented learning, etc.[1]

Various authors with different orientations have emphasized the importance of such suggestive factors operating in the treatment of enuresis. Friedell (1927) reported an 87% cure over a six month follow-up period, using injections of sterile water. McGregor (1937) obtained a 60% cure over an 18 month to six year follow-up period, merely using a calendar system and reward. An additional 10% of his sample were considered cured, but at the stage of writing had only been followed up for a few months. More recent research has not achieved such high success. Braithwaite (1950) using a method similar to that of McGregor reported an 11% cure, but improvement in an additional 50% of his sample of 55 children. No indication is given of length of treatment or follow-up, however. Breger (1962) reported very similar outcome figures after an 18 month follow-up to a 3 month supportive-suggestive therapeutic trial combined with drug treatment. Unfortunately both Braithwaite and Breger's "improvement" criteria do not enable their results to be compared directly with that of conditioning treatment. In the light of all the evidence, however, it would seem that suggestive factors could play an important role in the treatment of enuresis. Further research seems warranted in this relatively unexplored area.

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[1] For further practical limitations of conditioning treatment such as the fact that "the method has never really become popular, at least in medical circles, and is at best regarded as a last-ditch treatment" see Werry (1966), and Frazer, (1971).

A recent review on the psychopharmacological treatment of nocturnal enuresis has shown that the tricylic antidepressants, imipramine (toframil) being by far the most popular, are the only drugs studied that have been found to be consistantly superior to placebo, reaching statistical significance in 25 out of 38 controlled double-blind studies with 1,815 cases. (Blackwell and Currah, 1973). While the comparative ease and inexpensiveness of psychopharmacological treatment make it a worthwhile first method of treatment, relapse generally tends to occur immediately after withdrawal of the drug and long term follow-up after imipramine treatment suggests total remission occurs in only a minority (approximately 25%) of cases (Blackwell and Currah, 1973; Kolvin et al. 1973; de Jonge, 1971). A typical study by de Jonge (1971), shows a 23 per cent remission over a year as compared to the 13.5 per cent to 15 per cent natural spontaneous remission rate (de Jonge, 1971, 1973).

Despite its probable wide usage, there has been a paucity of research on the results of the psychotherapy with enuretics (see Lovibond, 1964 for a review). In view of the absense of demonstrable psychopathology in the majority of enuretics, lengthy psychotherapeutic treatment would generally seem both unnecessary and undesirable. Two studies have shown the "buzzer" to be significantly more effective than relatively short term psychotherapy of a

psychodynamic (Werry and Cohrssen, 1965, 6 to 8 sessions) and unspecified nature (De Leon and Mandell, 1966, 12 sessions). Further both studies found that brief psychotherapy was not significantly more effective than no treatment (Werry and Cohrssen, 1965; De Leon and Mandell, 1966).

A combination of various treatment methods is probably what is practised by most clinicians (largely owing to the notorious resistance of nocturnal enuresis to therapy). Various studies have used combinations of treatments (Novick, 1966; Breger, 1962; Braithwaite, 1950). Testing the efficacy of different combinations of treatments would seem a fruitful avenue for future research. Two studies, for example, have shown a combination of drug and conditioning treatments to be statistically superior to conditioning alone (Philpott and Flasher, 1970; Young and Turner, 1965).

In conclusion, this section has been concerned with a brief overview of some of the commonly used methods of treating enuresis. Despite its generally accepted status, as being the most effective method of treating nocturnal enuresis, conditioning treatment has various limitations. Good initial response to psychopharmacological treatment make it a worthwhile first method of treatment, but with the high relapse phenomenon, any long term effectiveness is

dubious. The commonly noted presence of non-specific suggestive factors argues for future research in this relatively unexplored area. With the need for a brief, varied symptomatic approach to the treatment of enuresis, a more specific suggestive approach, such as the use of hypnotherapy, would appear a desirable clinical alternative to the other methods. This will be expanded on in the next section.

reliability of the efficacy of treatment.

There are two other studies in the literature which report on the use of hypnotherapy in the treatment of more than 20 cases. Braithwaite (1950) reported on the treatment of 21 children of which 5 were cured, 5 greatly improved (more than 5 dry nights a week), 5 improved (the amount of wetting was reduced and dry nights amounted to from one to four a week) and 6 showed no change. The report gives no indication as to follow-up, length of treatment, or any additional information.

Lazarovici(1971) reported on the treatment of 25 nocturnal enuretics and 17 cases with other neurotic afflictions , in the only study which has any comparison or control group. Cases were followed up over a 10 month period and in 64% (16 out of 25) of the enuretics complete symptom removal was obtained. Chemical therapy was used in conjunction with the hypnotherapy on 10 of the 17 neurotic children, wherein a successful result was obtained in 52.9%. Lazarovici gives no indication as to the type of enuresis treatment, e.g. primary or secondary, nocturnal or diurnal, degree of wetting frequency, degree of psychological maladjustment; such factors as would seem to influence therapeutic outcome. Her 25 cases were treated in a hospital setting, which would seem to be a confounding variable in terms of the research indicating that this itself often effects remission of wetting (Stein and Susser, 1967; Olejnik, 1971). As it was, Lazarovici recorded that 4 children spontaneously remitted, 3 were excluded as they

were unable to be followed up, 10 children were cured after 1 session, 7 after two and 1 after 10 sessions. There was relapse in 4 of the cured cases, 2 after returning home, and the other 2 after 1 to 4 months supposedly due to school problems. Despite what she has regarded as the preliminary nature of her study, and the small number and selected population of her sample, Lazarovici's results in terms of pure outcome are most impressive. In fact the outcome figure, 64%, i.e. 16/25, is misleading as the denomenator includes those cases (seven) in which there was spontaneous remission or non co-operation. A recalculation would give a 16/18 or 89% cure figure.

Despite the evident limitations to, and dubious reliability of these reports, they collectively provide fairly substantial support for the efficacy of hypnotherapy with enuresis. Taken at face value, a computation of the outcome figures of the various reports is as follows :-

Author	No. of Cases.	Outcome Figure (% Cured)
Liebeault (1897)	77	73
Bramwell (1890)	18	100
Cullere (1895)	24	88
Braithwaite (1950)	21	24
Lazarovici (1971)	25	64
	165	70% (Mean)

The remaining literature on hypnotherapy with enuretics consists mainly of reports on the successful treatment of a variety of single cases (Wolberg, 1948; Erikson, 1954a, 1954b; Schwidder, 1953; Ambrose, 1956; Miller, 1959; Ambrose and Newbold, 1968; Hartland, 1971) and recommendations in articles (Billström, 1939; Seldon, 1944; Straus, 1944; Davison and Douglas, 1950; Ambrose,

1968) and medical handbooks wherein methods and varieties of treatment are outlined (Wolberg, 1948; Ambrose and Newbold, 1968; Hartland, 1971).

When considering :-

1. the necessity of a brief, varied symptomatic approach to the treatment of nocturnal enuresis and
2. the limitations of the various other methods of treatment,
3. the well-known powerful effect of suggestion from a psychological (Winkelman et al., 1971) and somatic point of view (Gerbner et al., 1959),
4. the effectiveness of hypnotherapy with another psychosomatic complaint, asthma(Ambrose, 1968),

the above literature points towards the desirability of hypnotherapy as an established clinical alternative for the treatment of nocturnal enuresis with :-

1. its clinical utility and flexibility,
   (a) as a brief short-term technique for symptom removal (Wolberg, 1948) which would seem desirable for the majority of enuretic children, in which various additional "techniques" such as psychotherapeutic reassurance, "ego strengthening" (Hartland, 1971) and behavioural reinforcement (Meyer and Tilker, 1969) can be incorporated.
   (b) as a more insight-oriented or analytical therapy for more disturbed enuretic cases (Schwidder, 1953),
   (c) as an adjunct to more general psychotherapy especially again for the conversion of "insight" into "action" (Kaffman, 1968),

(d) in conjunction with other methods of treatment (Braithwaite, 1950; Lazarovici, 1971),

2. its practical utility owing to the high level of suggestibility in children (London, 1962; Barber, 1965).

In conclusion, while there is evidence for the utility and efficacy of hypnotherapy with nocturnal enuretics, there has been no adequately controlled, rigorous experimental research testing the hypothesis, with an adequate, non-medical random sample of enuretics; suitably classified according to recent research; explicit denotability of independent and dependent variables e.g. explicit measurement of enuresis, psychopathology, level of hypnosis or suggestibility; follow-up data, etc. i.e. the various criteria necessary for scientific respectability of experimentation in the area.

2. Aims and Hypotheses.

The aims of the present study are threefold :-

1. To assess the effectiveness of hypnotherapy in the following three forms with nocturnal enuretic boys[1] under controlled experimental conditions.

   (a) A hypnotic induction succeeded by suggestions aimed at decreasing both enuresis and maladjustment, conveniently symbolized as "H+". (The term "maladjustment is used in the common broad sense, synonymous with such previously used terms as emotional disorder and psychopathology, as well as referring more specifically to various measures on personality questionnaires, for example, neuroticism and anxiety as measured by the Children's Personality Questionnaire (Porter and Cattell, 1963).

   (b) Task motivational instructions similar to those of Barber (1965) given under waking conditions succeeded by suggestions aimed at decreasing both enuresis and maladjustment, symbolized as "W+".

   (c) A hypnotic induction not succeeded by suggestions, symbolized as "H".

2. To clarify further the primary/secondary enuretic distinction as regards both personality characteristics (maladjustment) and treatment (as well as the association between nocturnal enuresis and maladjustment) with reference to the somewhat conflicting research mentioned previously (p. 29)

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[1] Female enuretics and diurnal enuretics were not included in the present study for both practical reasons (their proportionately lower incidence than male enuretics and nocturnal enuretics) and design purposes.

3. To clarify further the issue of whether hypnosis is a "special state" as advocated by the traditional trance paradigm or not, with regard to an application of Barber's experimentation to the clinical situation, as is apparent in the manner in which hypnotherapy has been defined in the first aim.

Consequently the following hypotheses were generated :-

1. Hypnotherapy (as defined above i.e. including all three treatment conditions) will be significantly effective in terms of a decrease in both enuresis and maladjustment, both longitudinally with regard to pretreatment base-line enuresis frequency and pretreatment psychological testing (i.e. within-subjects comparison) and as compared with enuresis and maladjustment data from a no-treatment control group of subjects hereafter symbolized as "NT" (i.e. between subjects comparison).

This can be broken down into four more simple hypotheses :-

(1.1) Hypnotherapy will cause a significant decrease in enuresis (in terms of pretreatment base-line enuresis) over time.

(1.2) Hypnotherapy will effect a significant longitudinal decrease in maladjustment.

(1.3) Hypnotherapy will be significantly more effective than no treatment, in terms of enuresis decrease.

(1.4) Hypnotherapy will cause a significant decrease in maladjustment when compared with no treatment.

2. Secondary enuretics, who will be signifcantly more maladjusted than primary enuretics, will respond significantly better to hypnotherapy, but with significantly greater relapse than primary enuretics. This involves three hypotheses :-

   (2.1) Secondary enuretics will be significantly more maladjusted than primary enuretics.

   (2.2) Secondary enuretics will respond significantly better to hypnotherapy than primary enuretics.

   (2.3) Secondary enuretics will relapse significantly more than primary enuretics after hypnotherapy.

3. The two treatment conditions H+ (induction of hypnosis succeeded by suggestions aimed at decreasing both enuresis and maladjustment) and W+ (task motivational instructions given in the waking state succeeded by suggestions aimed at decreasing both enuresis and maladjustment) will have the same efficacy in decreasing nocturnal enuresis and both will be significantly more effective than either treatment condition H (induction of the hypnotic state without succeeding suggestions aimed at decreasing both enuresis and maladjustment) or no-treatment (N.T.) This involves two basic hypotheses :-

   (3.1) The treatment conditions H+ and W+ will not differ significantly as regards decrease in nocturnal enuresis.

   (3.2) The treatment conditions H+ and W+ will both be significantly more effective than either treatment condition H or NT, as regards decrease in nocturnal enuresis.

This last hypothesis is based on the implicit assumption that suggestions preceeded by either a hypnotic induction or task motivational instructions, will be more effective than either a hypnotic induction alone or no hypnosis and no suggestions. Alternatively, this would imply that suggestions are the active factors in producing therapeutic change and are more compelling when preceeded by either enhanced expectancies, attitudes and motivations with vivid imagination and involvment, or preceeded by a hypnotic induction. This hypothesis can be further subdivided :-

(3.21) The treatment condition H+ will be significantly more effective than treatment condition H as regards decrease in nocturnal enuresis.

(3.22) The treatment condition W+ will decrease enuresis significantly more than treatment condition H.

(3.23) The treatment condition H+ will decrease enuresis significantly more than the no treatment condition (NT).

(3.24) Treatment condition W+ will decrease enuresis significantly more than the no treatment condition (NT).

METHOD

3.1 Subjects.

The subjects were 48 nocturnal enuretic boys; 24 primary and 24 secondary enuretics. Classification of secondary enuresis required a dry period of at least three months or at least three, one or two month dry periods in the child's life. Subjects not satisfying these criteria were classified as primary enuretics. This primary/secondary enuresis criterion was established in order to furnish a relatively equal number of the two types of enuresis for design purposes.

The subjects were obtained in response to a letter (see Appendix A) offering treatment for nocturnal enuretic boys, 4,748 copies of which were distributed to the largest boys schools in the Cape Peninsula. This was accomplished with the approval of the Cape Education Department and the headmasters of the various schools concerned. All treatment was carried out at the Child Guidance Clinic, University of Cape Town.

Specific requirements for acceptance into the research programme were :-

1. Subjects were to be aged over eight and under thirteen as of 1st September, 1972.
2. Medical examination and/or referral to control for organic impairment.
3. No incidence of diurnal enuresis.
4. Nocturnal enuresis at least once in the month following

the initial interview, and no other treatment undertaken. This was to control for spontaneous remission as well as the effect of the initial interview. It also established as to which families had kept regular enuresis records, a further implicit criterion.

This left a pool of 24 additional subjects from which to draw in the event of non co-operation, illness, etc. in the research sample. As it happened, three children dropped out of the research, two from the "H" treatment condition, owing to non co-operation and one from the "H+" treatment condition owing to illness. Except for these three cases, the research sample remained the same for the duration of the research.

The 48 subjects had a mean age of 10.5 years with an age range of 8.0 to 13.0 years as of 1st September, 1972. (This actually meant that two subjects had already turned thirteen when they had treatment). Of the 24 secondary enuretic subjects, ten had obtained a dry interval of more than one year at some stage in their lives, and three of more than six months. The sample of 48 subjects were fairly homogeneous with regard to social class, with a slight upper class bias; 15 subjects falling into class II, 31 into class III and 2 into class IV. (See Appendix A). In addition, the primary enuretics had a significantly higher incidence of enuresis, as indicated by a Pearson Correlation Matrix with regard to pretreatment base line enuresis, and enuresis measured in six week intervals following and including the initial treatment session. The correlations involved were .458 and .400, .441, .415, .315, 324 respectively. (Analysis of variance confirmed this result as is indicated later, Section 4.1 Table 3).

3.2 Apparatus.

1. Psychological tests :

(a) The Children's Personality Questionnaire or "CPQ" (Porter and Cattell, 1963), provides ratings on fourteen first order personality factors :-

A, Reserved, detached vs warmhearted, outgoing.

B, Less intelligent vs more intelligent.

C, Emotionally unstable vs emotionally stable, higher ego strength.

D, Phlegmatic, deliberate vs excitable, impatient, overactive.

E, Obedient, mild, conforming vs assertive, independ-end, aggressive.

F, Sober vs happy go lucky.

G, Expedient vs conscientious.

H, Shy, restrained vs venturesome, socially bold, uninhibited.

I, Tough-minded, self reliant vs tender minded, dependent.

J, Vigorous, goes readily with group vs circumspect, internally restrained, obstructive.

N, Forthright, natural vs shrewd, calculating.

O, Self assured, secure vs worrying, depressive, insecure.

Q3, Casual, follows own urges, low integration vs controlled.

Q4, Relaxed vs tense.

and two second-order factors which served as indicators

the small sample and large time interval, about 8 months, before retesting.

(b) The Junior Eysenck Personality Inventory or "Junior E.P.I. (Eysenck, 1965, 1971) provides a good overall indicator of "emotionality" or neuroticism in addition to the intraversion-extraversion dimension and lie scale. Eysenck (1971) quotes impressive split-half and test-retest reliabilities on the standardization sample of 1,056 boys and 1,074 girls. As regards the present sample, the validity of the scale has been mentioned above, and stability was demonstrated by correlations significant at the .01 level.

(c) "Child Scale A",a childrens behaviour questionnaire for completion by parents (Rutter et al., 1970),was designed specifically to fill a need for a valid and reliable short questionnaire to be used with children in the age group of the present sample. It is a successor to an open-ended interview schedule designed to obtain a full description from a parent of a child's behavioural abnormalities (Graham and Rutter, 1968). Besides providing an indicator of "psychiatric disturbance" as indicated by a score of 13 or more, the questionnaire incorporates items both on enuresis and sometime associated behavioural problems such as speech disorder and encopresis. Rutter et al (1970) reported a test-retest reliability correlation of .74 which was replicated exactly in the present study. Validity was estimated by comparison with psychiatric interviews (not using scale items). 50.4% of children who fell into the "psychiatric disorder" category of the scale were rated as having a definite disorder compared with a 6.8% figure for the Isle of Wight population.

2. Hypnosis tests.

(a) The Barber Suggestibility Scale (B.S.S.)(Barber, 1965) includes eight test suggestions that are scored both objectively and subjectively and can be administered directly or with a variety of antecedent instructions, for example preliminary task motivational instructions or a hypnotic induction procedure as used in the present study. Administration and scoring takes about 12 minutes. The test can be administered orally or via a tape recorder, as in the present study. The test items consist of arm lowering, arm levitation, hand lock, thirst hallucination, verbal inhibition, body immobility, "post-hypnotic-like" response and selective amnesia. Subjective scoring occurs afterwards and consists in asking the subject "Did you feel (the particular suggested item) or did you go along with the suggestion to follow instructions or to please me"; 1 point for each test-suggestion passed objectively, which subject states that he had "felt". While there is evidence that test-retest correlations for children are slightly lower (Barber, 1965), a number of studies quoted by Barber (1965) have established a test-retest and split-half correlation of .8 and upwards. In the present study, the test-retest correlation for the B.S.S. was .77, and similar highly significant correlations were established with the other two scales, London's (1962) Children's Hypnotic Susceptibility Scale (.66 and .75) and Orne and O'Connell's (1967) "diagnostic ratings of hypnotizability" (.79 and .90); impressive evidence for the validity of the hypnosis measures in the present study.

(b) The Childrens Hypnotic Susceptibility Scale or C.H.S.S. (London, 1962) is composed of two parts. Part I is

based on the Stanford Hypnotic Susceptibility Scale (Weitzenhoffer and Hilgard,1959). Part II is a depth scale suitable for children, with various hallucinatory items, such as the positive visual hallucination of a rabbit, an age regression item, a dream, and post hypnotic suggestions items. Like the B.S.S. it contains both subjective and objective scoring criteria and has impressive reliability correlations (e.g.test-retest,.92). Aside from the postural sway item of Part I, which was given directly to all subjects, the items on the C.H.S.S. contain wording associated with a hypnotic induction e.g. sleep, etc.,which constitutes confounding between independent or antecedent variables, e.g. the hypnotic induction procedure, and consequent variables, e.g. response to test suggestions such as arm levitation. Consequently the scale was not administered in its standardized form, but in a flexible manner to both (a) suit the subject, and (b) preclude any wording associated with a traditional hypnotic induction. The items on the C.H.S.S. and B.S.S. conveniently provided raw data for classification as regards the third scale which follows.

(c) "Diagnostic Ratings of Hypnotizability" (Orne and O'Connell,1967) refers to a clinically derived system of measuring the level of hypnosis. Based on the old David-Husband Scale (Davis and Husband, 1931), the major categories of the system and their ratings are :-

1. No response.
2. Ideomotor response.
3. Challenge response with subjective involvement.
4. Hallucinatory response.
5. Amnesia and post hypnotic response.

This scale complemented the previous two in that it is more qualitative; with the criteria being cumulative and requiring a degree of clinical acumen and experience. The scoring criteria reflect long established boundaries in the hypnosis literature; the presence or absence of (a) subjective involvement and (b) amnesia. In scoring, plus or minus signs which indicate the degree of subjective involvement are used for each category except 1, i.e. there is no "1" rating. This gives a rating scale of one to fourteen used in the present study. By way of example, a subject who experiences an inability to resist hand lock i.e. "feels that he 'really' cannot open his hands", describes really trying to do so, but is not quite able to develop good hallucinatory experiences, atypifies a 3+ rating or scores 8.

Two studies quoted by Orne and O'Connell (1967) using this system, obtained inter-rater reliability correlations of .98 and .96.

3. A high fidelity stereophonic reel to reel tape recorder, the AKAI 1720L which was used :-

(a) as an amplifier, by which the experimenter could talk directly to the subject, that is could talk into a microphone to headphones worn by the subject, for the presentation of :

1. a "live" non-standardized hypnotic induction or
2. instructions to subjects to close their eyes and use their imagination.

(b) for presenting the pre-recorded :

1. B.S.S.
2. Suggestions aimed at decreasing enuresis and maladjustment.

4. The "hypnosis chair". This was a comfortable reclining chair, adapted from a car seat, placed at the opposite side of the room to a coloured dot on the wall of the room for eye fixation in those subjects given a hypnotic induction.

5. Standardized antecedent instructions which were read to all subjects who were to receive treatment.

(a) Instructions for those subjects who received an hypnotic induction were as follows :-
"Just now to stop your wetting your bed I am going to make you very relaxed and put you into a different kind of sleep. You will find this very interesting, pleasant and not at all frightening. It will be very easy to go into this different kind of sleep if you want to and if you listen carefully and do everything I say. Then you will be able to experience everything I tell you to; that is things will happen to you exactly as I say they will happen. If you are interested and willing, you will enjoy these treatment sessions and there is a very good chance of you having many dry beds".

(b) Alternate "task motivational" instructions given (in the "waking state") to those subjects who did not receive a hypnotic induction were as follows :-
"In these treatment sessions I am going to get you to use your imagination, get you to be able to

picture things. How well you do in these treatment sessions and to what extent we can stop you bed-wetting depends entirely upon your willingness to co-operate and how much you try to imagine or to picture in your mind the things I will ask you to imagine or to do.

Just now I am going to test your ability to imagine. I am going to give you a number of tests. Everyone passes these tests when they try. For example, I have asked boys before to imagine they were sitting in a bioscope watching a film. Most boys can imagine this very well and are able to imagine very clearly that they are at a bioscope and are actually looking at the picture and seeing the film. Some, a very small number of boys, have thought this was silly, and do not try to imagine and fail the tests. Yet when these boys later realized that it was not hard to imagine, they were able to picture the bioscope, and actually see the picture and feel as if the imagined bioscope was as real and clear as an actual bioscope.

So all I ask is that like me, you take this seriously and co-operate by trying to imagine or to picture what I describe to you. I want you to try to score as high as you can because I am trying to measure how much you can imagine or picture things. The higher you score on these tests, the greater the chance that you stop wetting the bed. If you don't

try the best you can, these tests will be worthless and the less chance there is of helping you. On the other hand, if you try to imagine, to picture the things I describe to you the best you can, you can easily imagine and do all the interesting things I tell you and there will be a very good chance of your having many dry beds".

6. "Standardized" pre-recorded suggestions aimed at decreasing both enuresis and maladjustment given to subjects :-

(a) After an hypnotic induction, i.e. suggestions of relaxation, eye heaviness, eye closure, drowsiness, sleep and suggestions to subjects that they were entering a unique state in which they would be able to have interesting and unusual experiences. (A counting technique in conjunction with suggestions of deepening sleep was also used). This refers to treatment H+.

(b) After the "task motivational instructions" described above i.e. treatment condition W+.

These suggestions :-

(a) Were based partly on a treatment regime propounded by Hartland (1971),

(b) Attempted to incorporate various factors associated with nocturnal enuresis,

(c) Were geared towards the reinforcement of positive behavioural changes as advocated by Meyer and Tilker (1969), specifically through "post-hypnotic" suggestions associated with dry nights.

A verbatim account of these suggestions is as

follows :-

"Now while your eyes are closed and while you are relaxed and listening carefully to everything I say, listening to everything I say ...

From these treatment sessions, from this relaxation when you use your imagination and picture clearly in your mind all the things I say ...

You are going to feel stronger and better every day, stronger and better ... You will become much calmer, much less easily excited, much less nervous and worried, much less nervous and worried and much less anxious. You will become much less cross and upset. You won't get as angry and cross and irritable and upset. You will become much less worried and full of peace and calm inside you.

Everyday you will feel much more confidence in yourself, more able to stick up for yourself, more independent, without becoming worried, without becoming frightened, without becoming nervous or anxious. You will feel much more confidence in yourself but at the same time you will not overate yourself, not become falsely confident or full of yourself. Rather you will be able to judge and understand better what you can do and this will give you more confidence, more independence, more strength, peace and calm ...

And now what I want you to concentrate on is your stomach. Think of your stomach and your bladder that holds your urine or your water ... It feels sort of special now that we are thinking of it and you will be able to feel it getting warm, feel it getting warm as you think of it ... You will feel your stomach gradually beginning to get

warm, you will feel this feeling of warmth in your stomach ... your stomach is getting warmer and warmer as you think of it, warmer and warmer and warmer ... And now the warmth is spreading down into the lower part of your stomach, into your bladder that holds your water ... And now, as your bladder is warm, and getting warmer and warmer, so it is getting stronger and stronger ... Your bladder is getting warmer and warmer and stronger and stronger. It is as strong as steel, the muscles of your bladder that holds your water are as strong as steel, so that it will be able and can now hold your water all night long, hold your water all night long, and in the morning your bed will be dry.

With every treatment session we have, with every relaxation when you use your imagination and picture in your mind the things I say, your bladder will get stronger and stronger, and you will begin to get more and more dry beds, until soon your bed will be dry every morning when you wake up, dry every morning ...

So that you will have more and more dry beds sooner and sooner, you will never have anything to drink before you go to bed, never drink before you go to bed. You will always go to the toilet and pass water immediately before you get into bed. Always go to the toilet before you get into bed. You won't worry about whether you will have a dry bed or not because soon there will not be any need to worry and also from these treatment sessions you will not worry as much, and the less you worry about it, the more and more dry beds you will have ...

You will sleep well, but you will not sleep

so deeply, you will not sleep so deeply ... so that if you do feel that you want to go to the toilet during the night, your bladder and stomach will begin to feel so uncomfortable; if you do need to go to the toilet during the night, your bladder will become so uncomfortable, that it will wake you up in plenty of time for you to get out of bed, by yourself, and walk to the toilet so that you can pass water in the proper place. When you get back into bed again, you will fall asleep immediately but not sleep so deeply, so that when you wake up in the morning, your bed will be dry ...

And during the daytime, during the daytime, whenever you feel you want to pass water, I want you to hold back your water, hold back your water as long as you can and only go to the toilet when you feel you can't possibly last much longer ... If you get into the habit of doing this, you will find that you will gradually be able to hold your water longer and longer during the day, and as this happens you will be able to hold it longer and longer during the night, all night long in fact, all night long, and in the morning your bed will be dry ...

And during the day, during the day, whenever you have gone to the toilet, I want you to get into the habit of stopping yourself after you start to pass water, start to pass water again and then stop again, starting and stopping and then finishing completely. If you do this it will help you to get complete control over it, even during the night, so that you will have more and more dry beds, until soon your bed will be dry every single morning when you wake up, dry every morning ...

And when you wake up in the morning and your bed is dry, whenever you have a dry bed, immediately, straightaway, as soon as you wake up with a dry bed, you will feel tremendously happy ... you will feel a very deep happiness inside you. As soon as you wake up with a dry bed you will feel a wonderful change in yourself, and straightaway feel and think to yourself ... "I have had another dry bed ... and think .. well, I have done this, and now I can do all those other things I have worried about and all those things that have held me back" ... You will feel this wonderful change in yourself and will be much better able to do all those things that mean something to you. And whenever you have done something that means a lot to you, or your family or any people that mean anything to you, whenever you do any of those things that you always wanted to do, whatever it is, whether it is playing sport : well, making friends with people, whatever it is that means something to you ... immediately straightaway, as soon as you have done it, you will have the same wonderful feeling as when you wake up with a dry bed. You will feel the same wonderful change in yourself and think to yourself ... "Well I have done this by myself", and feel proud, and wonderfully happy and think there are lots of other things you are now able to do and feel proud and happy about ...

These wonderful changes will all happen in your own time when you are ready for them to happen, as you get more and more dry beds every morning when you wake up and because you have become less worried now, have become less easily upset and cross, and more calm, more confident, more independent, more able to stick up for yourself, and do things on your own ... from this treatment session, this

relaxation when you use your imagination and picture clearly in your mind the things I say.

Now I want you to relax on your own and think about what I have said, with your eyes closed ...".

3.3 Design.

The 24 primary and 24 secondary enuretic subjects were graded in terms of age, eldest to youngest in each case; cut off points established at quadratic intervals and randomly assigned to one of the following four treatment conditions :-

(a) H+ i.e. a hypnotic induction succeeded by suggestions aimed at decreasing both enuresis and maladjustment.

(b) W+ i.e. task motivational instructions given in the "waking state" followed by suggestions aimed at decreasing both enuresis and maladjustment.

(c) H i.e. a hypnotic induction without succeeding suggestions .

(d) NT i.e. no hypnosis or suggestions, i.e. the no treatment control condition.

The straight forward 2 x 4 factorial design (with 6 subjects in each cell) can be conceptualized as follows :-

TABLE 1.

TYPE OF ENURETIC	TREATMENT CONDITION			
	H+	W+	H	NT
PRIMARY	6	6	6	6
SECONDARY	6	6	6	6

Regarding the independent variables i.e. hypnosis and suggestions, a 2 x 2 factorial design is involved :-

TABLE 2.

TREATMENT CONDITION	FIRST INDEPENDENT VARIABLE	SECOND INDEPENDENT VARIABLE
H+	Hypnotic induction	Succeeding suggestions
W+	No hypnotic induction	Succeeding suggestions
H	Hypnotic induction	No succeeding suggestions
NT	No hypnotic induction	No succeeding suggestions

3.4 Procedure.

Step I. Collection of the "random","non-medical" sample of nocturnal enuretic boys via the letter offering treatment (Appendix A).

Step II. Initial interview with parent(s).

On contacting the clinic, mothers were asked to keep a record of their child's enuresis, to discontinue all forms of treatment, and were given an appointment for the initial interview at least a week in advance. In this initial interview :-

1. A full case history was taken and social class estimated (Appendix A).
2. Special attention was given to the primary/secondary enuretic distinction.
3. Mothers were informed of the necessary prerequisites for inclusion in the treatment programme and the future obligations entailed for the duration of the research i.e. one year :-
   (a) Strict daily recording of enuresis and
   (b) Routine monthly contact with the clinic (i.e. posting in the calendars issued), in conjunction with the regular monthly postal and/or telephonic contact, parents were to receive from the clinic, in order to obtain absolutely reliable enuresis records.
4. Parents were to be recontacted when their child could be offered treatment. Thus extensive base-line enuresis records ranging from 11 to 21 weeks were obtained. (This

was intended to minimise the therapeutic or otherwise non-specific effects of the interview and later pre treatment psychological testing effective during this period, besides the obvious value as a reliable indicator of non-treatment enuresis frequency).

Step III. Pretreatment psychological assessment of parents and children on the various measures described previously. Both parents and children were assessed on two further measures :-

1. "A Test of Personality Adjustment" (Rogers, 1931).
2. A Five Element Rank Order Repertory Grid (Vander Spuy et al., 1972) and for parents :-
3. A modified parental version of Rogers Test of Personality Adjustment (O'Brien, 1972).
4. The Maryland Parental Attitude Survey (Pomroy, 1966).

As data from these measures is not included in the present study, they will not be discussed further.

Step IV. Selection of subjects and allocation into treatment conditions.

Step V. Treatment lasted for 6 weeks and consisted of six standardized sessions, one hourly session per subject per week. The decision as to the length of treatment was based on a recommendation by Ambrose (1956).

Standardized instructions which were given to all parents of all subjects at this stage were :-

(a) Rewarding of dry nights.
(b) Checking on subject's routines of never drinking and always visiting the toilet before bedtime.

This was communicated telephonically and by post with parents of subjects in the no-treatment group NT, and with parents of the additional 24 children not included in the present study. (See Appendix A).

SESSION I :

STEP A. Subjects were given the Goodenough Draw-A-Man Test and rapport established. (This was for later comparison with the age-regression item on the "C.H.S.S." (Childrens' Hypnotic Susceptibility Scale) as well as providing a useful clinical indicator with regard to intelligence, emotional immaturity etc. for the possibility of future research).

STEP B. Initial standardized instructions were read to all subjects. (i.e. full task motivational instructions were given to treatment group W+ at this stage).

STEP C. The Postural Sway item of the C.H.S.S. was administered to all subjects (i.e. in treatment groups H+, W+ and H) to relax them and prepare them for the Barber Suggestibility Scale (B.S.S.).

STEP D. Once comfortably seated and wearing headphones;-

(a) subjects in treatment conditions H+ and H were asked to fixate their attention on the coloured dot on the wall opposite them and were then administered a hypnotic induction procedure i.e. suggestions of relaxation, eye heaviness, eye closure, drowsiness, sleep; suggestions of entering a unique state in which there are interesting and unusual experiences, and a counting technique in conjunction with suggestions of deepening sleep.

(b) Subjects in treatment condition W+ were instructed to use their imagination and keep their eyes closed for the duration of the tests, i.e. until told to open them.

(This procedure was accomplished by using the tape recorder as an amplifying system as described previously).

STEP E. At a suitable time, as judged by the experimenter, the tape recorded B.S.S. was administered and scored.

STEP F. Calendar marking and post-experimental enquiry as to subjective experiences establishing "diagnostic ratings of hypnotizability" (D.R.H.) followed this and each succeeding session.

SESSION II followed the same format as the first session as regards Steps D and E and F except that the C.H.S.S. was administered for the B.S.S.

SESSION III followed the same format as II except that the tape recorded suggestions aimed at decreasing both enuresis and maladjustment were administered.

(The repertory grid was also administered to assess therapeutic change in this session).

SESSION IV. The B.S.S. was re-administered prior to a format identical to Session III (with the exclusion of the repertory grid test).

SESSIONS V and VI followed the same format as Session III (again with the exclusion of the repertory grid test).

Step VI.

(a) Parents and subjects were retested on all measures as outlined in Step III immediately after treatment.

(b) Subjects were retested on the repertory grid in a mini follow-up, 6 weeks after treatment termination.

(c) Parents and subjects were retested on all measures, as outlined in Step III in a follow-up 6 months after treatment terimation. Parents and subjects in the no-treatment control group NT, who had not been seen since the pre-treatment testing, were also retested on all measures at this stage.

(d) Enuresis recording continued throughout this time.

There was one departure from the original treatment procedure intended. For ethical reasons, subjects in the treatment group H, i.e. who were to have merely a hypnotic induction alone, were told before the induction of hypnosis in Sessions III, IV, V and VI that the hypnosis would result in their becoming dry. They were told to notice certain changes in themselves, such as becoming more confident and independent, i.e. as given in the tape recorded instructions to groups H+ and W+. While this communication with subjects in treatment group H was given before any induction procedure, was not given through the head-phones and was given in as matter a fact a manner as possible, it is mentioned as a possible confounding variable in the study. However, it was felt that any effect this communication might have on therapeutic outcome would be no more powerful than any other "non-specific" effect, such as the therapeutic relationship,

which obviously occurs in any experimental clinical study of this nature, no matter how controlled the study. The results osupport this contention as will be shown later.

RESULTS.

Key: The following abbrevions are used throughout the results and discussion of results :-

PE refers to primary nocturnal enuretics;

SE refers to secondary nocturnal enuretics;

HT refers to hypnotherapy consisting of the three forms, treatment groups H+, W+ and H (N=36);

H+ refers to the treatment condition in which a hypnotic induction (H) was succeeded by suggestions (+) aimed at decreasing enuresis and maladjustment;

W+ refers to the treatment condition in which task motivational instructions were administered in the waking state (W) prior to suggestions (+) as above;

H refers to the control treatment condition where a hypnotic induction was given without succeeding suggestions;

NT refers to the no treatment control condition where no hypnotic induction or suggestions were administered.

Specifically as regards tables and figures, the following symbols are used :-

M.S. refers to the mean square deviation;

D.F. refers to the degrees of freedom;

F Ratio refers to the statistic arrived at by the analysis of variance technique;

M refers to the mean;

S refers to standard deviation.

A denotes the primary/secondary enuretic distinction.

A1 refers to primary enuretics (PE).

A2 refers to secondary enuretics (SE).

B denotes the treatment conditions.

B1 refers to treatment condition H+.

B2 refers to treatment condition W+.

B3 refers to treatment condition H.

B4 refers to the no treatment control condition NT.

C refers to the dependent variable under consideration, for example E,0-5 or T1, T2, T3 where :-

1. E0 refers to pretreatment base-line enuresis frequency measured in terms of either the full base-line records obtained (which ranged from 11 to 21 weeks) or with regard to the month immediately preceeding treatment.
   E,1-5 refers to 6 week or weekly intervals following (and including) the initial treatment session, or alternatively :-
   E,1-4 refers to monthly intervals following (and including) the initial treatment session, as will be indicated.
2. T1 refers to pretreatment measures on all psychological tests.
   T2 refers to post treatment measures on all psychological tests.
   T3 refers to 6 month follow-up measures on all psychological tests.
   * indicates the .05 level of significance, and
   ** indicates the .01 level of significance in all statistical tables.

4.1 The Statistical Model.

Almost all the data in the present study was analysed with the three-way analysis of variance with repeated measures on factor C, which refers to the same subject at different times. This refers to Winer's (1971) discussion (p.559 ff). In Kirk's (1968) terminology this is a split-plot type SPF - pq. (p.283 ff). The three factors under consideration (factor A refers to the primary/secondary enuretic distinction, B refers to the treatment conditions H+, W+, H and NT, and C as above) were considered to be fixed factors i.e. the two types of enuretics and the treatment conditions used were the only ones under consideration and the only ones to which inferences were to be made. Following the principles outlined in Winer (1971), (p.311 ff), factor C was also considered fixed since the various periods of measurement were determined systematically. Of course, the subjects were randomly chosen.

With reference to Kirk (1968) (p.283 ff) we may see that the structural model underlying this design is

$$X_{ijkm} = \mu + \alpha_i + \beta_j + \alpha\beta_{ij} + \pi_{m(ij)} + \gamma_k + \alpha\gamma_{ik} + \beta\gamma_{jk} + \alpha\beta\gamma_{ijk} + \gamma\pi_{km(ij)} + \varepsilon_{\theta(ijkm)}$$

Where α_i refers to the i'th level of factor A, β_j to the j'th level of factor B, γ_k to the k'th level of factor C, π_m to the m'th subject and ε to the experimental error.

RESULTS.

Key: The following abbrevions are used throughout the results and discussion of results :-

PE refers to primary nocturnal enuretics;

SE refers to secondary nocturnal enuretics;

HT refers to hypnotherapy consisting of the three forms, treatment groups H+, W+ and H (N=36);

H+ refers to the treatment condition in which a hypnotic induction (H) was succeeded by suggestions (+) aimed at decreasing enuresis and maladjustment;

W+ refers to the treatment condition in which task motivational instructions were administered in the waking state (W) prior to suggestions (+) as above;

H refers to the control treatment condition where a hypnotic induction was given without succeeding suggestions;

NT refers to the no treatment control condition where no hypnotic induction or suggestions were administered.

Specifically as regards tables and figures, the following symbols are used :-

M.S. refers to the mean square deviation;

D.F. refers to the degrees of freedom;

F Ratio refers to the statistic arrived at by the analysis of variance technique;

M refers to the mean;

S refers to standard deviation.

Tests for simple main effects are always indicated when any of the interaction effects are significant and these were all carried out in accordance with the principles outlined in Kirk (1968, p.289 ff). Specifically, it must be noted that the correct error terms were obtained where applicable by the pooling procedures outlined on page 289.

Where comparisons among means were computed these were also estimated as outlined in Kirk (1968 p.292 ff).

The statistical programmes to do these analyses were written and checked on the various worked examples provided in Winer (1971) and Kirk (1968) (pages as above).

The principles of the Sheffe and Tukey comparison techniques are outlined in Kirk (1968 p.87 ff) where it may be noted that all of the comparisons were of the a posteriori type.

Chi-squared tests for statistical independence (Games and Klare 1967) were performed in comparisons with results of other researchers. For tables of Fisher's exact probability test for small numbers refer to Langley (1970 p. 292 ff).

Wherever possible data is presented in the following manner : summary tables of mean and standard deviation scores followed by figures followed by tables of the various statistical analyses performed, followed by specific interpretations of findings.

4.2 THE EFFICACY OF HYPNOTHERAPY.

4.2.1 THE EFFICACY OF HYPNOTHERAPY AS REGARDS DECREASE IN ENURESIS.

TABLE 3.

Enuresis Records: Mean number of Dry Nights per week per six week interval group scores.

Key: M refers to mean, S refers to standard deviation, E0 refers to pretreatment base-line enuresis frequency which ranged from 11 to 21 weeks. E1 refers to the 6 week treatment period. E,2-5 refers to 6 week intervals following the treatment period.

		PE: M	S	SE: M	S	PE+SE: M	S
H+	E0	1.82	1.85	3.53	2.55	2.68	2.22
	E1	3.52	1.32	5.33	1.78	4.43	1.57
	E2	3.67	2.1	5.8	1.25	4.73	1.73
	E3	4.08	1.61	5.58	1.66	4.83	1.64
	E4	4.18	.97	5.45	1.32	4.82	1.16
	E5	3.48	1.19	5.07	.94	4.28	1.07
W+	E0	1.05	1.0	3.03	2.29	2.04	1.77
	E1	4	1.57	4.85	1.38	4.43	1.48
	E2	3.92	2.52	5.37	2.21	4.64	2.37
	E3	3.88	2.55	5.65	1.32	4.77	2.03
	E4	4.2	2.3	4.17	1.98	4.18	2.15
	E5	4.6	2.51	4.63	2.15	4.63	2.34
H	E0	2.23	2.18	5.18	1.6	3.71	1.91
	E1	3.17	2.30	6.3	.56	4.73	1.67
	E2	2.87	2.65	6.63	.51	4.75	1.91
	E3	3.95	2.49	6.77	.48	5.36	1.79
	E4	4.2	2.11	6.92	.13	5.56	1.5
	E5	3.97	2.83	6.15	1.56	5.06	2.28
NT	E0	1.33	1.86	2.8	2.29	2.07	2.09
	E1	1.82	2.07	2.6	1.71	2.21	1.9
	E2	1.97	1.61	2.87	1.74	2.42	1.68
	E3	1.78	1.94	3.1	1.63	2.44	1.79
	E4	1.65	1.7	2.98	1.59	2.32	1.64
	E5	1.95	2.28	3.75	1.65	2.85	1.99

FIGURE 1

ENURESIS RECORDS

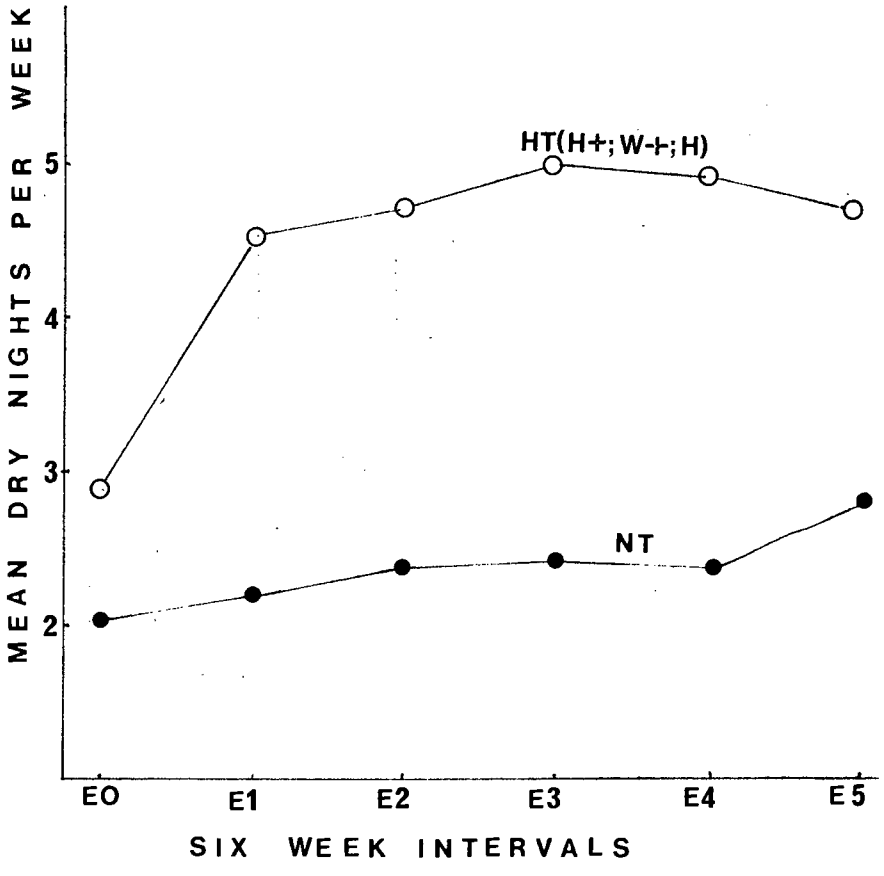

FIGURE 2

ENURESIS RECORDS

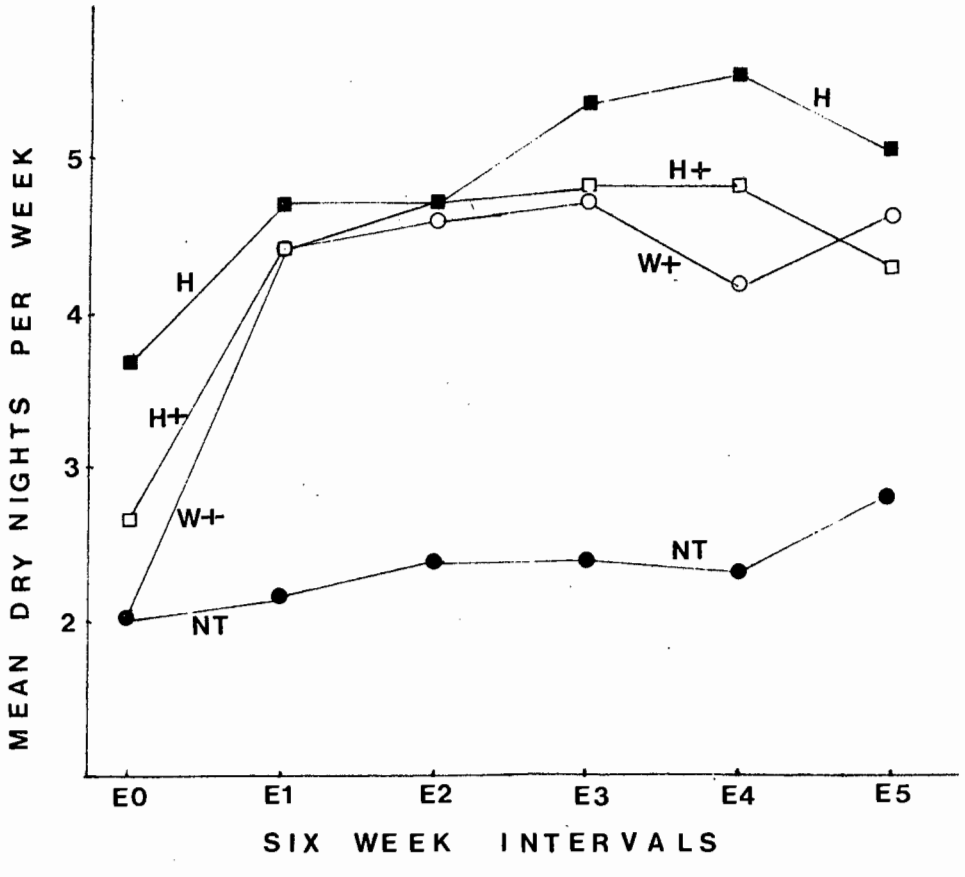

TABLE 4.

Enuresis Records in mean dry nights per week; Analysis of Variance.

Source	M.S.	D.F.	F. Ratio
Between Subjects			
A (Type of Enuretic; PE,SE)	212.354	1	13.248 **
B (Treatment Groups H+,W+,H,NT)	82.167	3	5.126 *
AB	13.062	3	.814
Error Term	16.028	40	
Within Subjects			
C (Enuresis Records; E,0-5)	19.997	5	22.171 **
AC	1.198	5	1.328
BC	2.329	15	2.583 **
ABC	.862	15	.955
Error Term	.901	200	

TABLE 5.

Enuresis Records in mean dry nights per week; Simple Main Effects.

Source	M.S.	D.F.	F. Ratio
A at C1 (E0)	49.410	1	14.434 **
A at C2 (E1)	32.505	1	9.496 **
A at C3 (E2)	51.046	1	14.912 **
A at C4 (E3)	41.070	1	11.998 **
A at C5 (E4)	20.935	1	6.116 *
A at C6 (E5)	23.380	1	6.830 **
Error Term	3.423	240	
C at B1 (H+)	8.149	5	9.035 **
C at B2 (W+)	12.867	5	14.266 **
C at B3 (H)	5.111	5	5.666 **
C at B4 (NT)	.858	5	.951
Error Term	.901	200	
B at C1 (E0)	7.312	3	2.136
B at C2 (E1)	16.393	3	4.789 **
B at C3 (E2)	15.782	3	4.610 **
B at C4 (E3)	20.262	3	5.919 **
B at C5 (E4)	23.084	3	6.743 **
B at C6 (E5)	10.981	3	3.208 *
Error Term	3.423	240	

* = .05 level of significance ** = .01 level of significance.

TABLE 6.

Enuresis Records in Mean Dry Nights per week. Sheffe multiple comparisons within treatment conditions. (Abbreviations in brackets refer to Figures 2 and 3).

Treatment Conditions	Means Compared	Sheffe F Ratio
B,1-3;C1 vs C2(HT;E0 vs E1)	2.808 vs 4.528	11.8 **
B,1-3;C2 vs C3(HT;E1 vs E2)	4.528 vs 4.708	.077
B,1-3;C3 vs C4(HT;E2 vs E3)	4.708 vs 4.99	.184
B,1-3;C4 vs C5(HT;E3 vs E4)	4.99 vs 4.85	.042
B,1-3;C5 vs C6(HT;E4 vs E5)	4.85 vs 4.625	.094
B1; C1 vs C2(H+,E0 vs E1)	2.675 vs 4.425	4.074 **
B2; C1 vs C2(W+,E0 vs E1)	2.041 vs 4.425	7.557 **
B3; C1 vs C2(H, E0 vs E1)	3.708 vs 4.733	1.397
B4; C1 vs C2(NT;E0 vs E1)	2.067 vs 2.208	.027

Enuresis Records in Mean Dry Nights per week, before, during and after treatment in 6 week intervals: Interpretation of findings.

Table 4 refers to the analysis of varianne of the absolute enuresis data (Table 3) in mean number of dry nights per week, with reference to the pretreatment base-line enuresis frequency (E0) which ranged from 11 to 21 weeks, the six week treatment period (E1), and four consecutive six week intervals (E,2-5) following the treatment period until follow up.

Table 5 refers to tests for simple main effects, analysis of which was especially indicated by the significant BC interaction in Table 4. In addition Table 5 indicated that :-

1) The significant A effect observed in Table 4 was consistent for all measures (E,0-5) of the dependent variable (Table 5, A at C1, C2, C3, C4, C5, C6) i.e. primary enuretic subjects had a significantly higher frequency of nocturnal enuresis than secondary enuretics before, during and for 6 months after treatment. All further interpretation of results concerning the primary/secondary enuretic distinction (A factor) will be reserved for a later section (4.3).
2) The significant C effect observed in Table 4 was owing to the three treatment conditions (H+, W+ and H) each being associated with a significant decrease in nocturnal enuresis (or improvement in dry nights as ob-

served in Figures 1 and 2) from the pretreatment base line enuresis levels until the follow up, six months after treatment (Table 5, C at B1, B2, B3), whereas there was no correspondingly significant decrease with the no treatment condition NT (Table 5, C at B4). In other words all three forms of hypnotherapy as defined in the present study were significantly effective in decreasing nocturnal enuresis. This confirmed Hypothesis 1.1.

Figures 1 and 2 indicated that the improvement in dry nights asscciated with the three forms of hypnotherapy viewed inclusively (Figure 1, HT, N=36) or separately, (Figure 2) was especially apparent over the treatment period.

Further within subjects analysis was performed with the Sheffe multiple comparisons technique with the express purpose of ascertaining whether there was significant improvement over the treatment period itself (when compared with base line frequency) Table 6 indicated that :-

(a) When viewing the three forms of hypnotherapy inclusively, this total treatment group of 36 subjects had improved significantly as regards an increase in dry nights over the treatment period (Table 6, B, 1-3; C1 vs C2, $p<.01$). While there was no significant improvement, or decrease in enuresis after the treatment period (Table 6, B,1-3; C2 vs C3, C3 vs C4, C4 vs C5, C5 vs C6),it was obvious from Figure 1 that the effect of treatment was maintained until the 6 month follow up period (Figure 1, HT, E,2-5).

(b) When viewed separately, those forms of hypnotherapy in which the tape recorded suggestions aimed at decreasing enuresis and maladjustment, had been preceeded by either a hypnotic induction (treatment condition H+) or task motivational instructions administered in the waking state aimed at enhancing expectancies, attitudes and motivations (treatment condition W+), had both resulted in a significant improvement in dry nights over the treatment period (Table 6, B1, C1 vs C2 $p < .01$ and B2, C1 vs C2 $p < .01$) See Figure 2. On the other hand improvement in the control conditions,

(a) whereby a hypnotic induction was not succeeded by suggestions (treatment condition H) and

(b) no treatment (NT), was not significant (Table 6, B3, C1 vs C2 and B4, C1 vs C2).

Thus, to sum up, hypnotherapy (HT) resulted in a significant improvement in dry nights over the six week treatment period. This improvement was significantly apparent in those treatment conditions (H+ and W+) which incorporated the tape recorded suggestions aimed at decreasing enuresis. The improvement was maintained for six months after treatment.

3) With regard to the significant B effect observed in the analysis of variance (Table 4), analysis of simple main effects indicated that while there was no significant difference between the treatment conditions with regard to pretreatment base-line measures (Table 5, B at C1),

the treatment conditions differed significantly during treatment (Table 5, B at C2) and for six months after treatment (Table 5, B at C3, C4, C5, C6).

Further analysis to ascertain relative differences between the individual treatment conditions, during and after treatment was not warranted with this absolute enuresis data, as a somewhat biased picture of the relative effectiveness of the groups would accrue owing to pre-existing differences (although non-significant) between the groups with regard to the pretreatment base-line data (as is evident from Figures 1 and 2 and Table 5, B at C1, where the difference reaches the one per cent level of significance).

In order to overcome this problem and for the additional purpose of obtaining a more relative description of improvement or outcome, this absolute enuresis data was transformed into Z-Scores using the pretreatment base line measures to establish means and deviations.

TABLE 7.

Enuresis Records in Dry Nights: Z-Scores for weekly Intervals

Key: M refers to mean, S refers to Standard deviation, E,1-6 refer to weekly intervals after (and including) the initial treatment session.

		PE:M	S	SE: M	S	PE+SE: M	S
H+	E1	.42	1.65	1.07	1.45	.74	1.19
	E2	1.1	.64	1.27	1.82	1.18	1.36
	E3	1.6	.94	1.27	.76	1.43	.85
	E4	1.47	1.63	1.22	.74	1.34	1.27
	E5	1.73	.67	1.48	.86	1.61	.77
	E6	2.23	2.62	1.82	.84	2.03	1.95
		1.43	1.53	1.35	1.15	1.39	1.35
W+	E1	2.63	1.76	.72	1.12	1.68	1.48
	E2	2.23	1.33	.38	1.18	1.31	1.26
	E3	2.87	1.95	1.08	1.76	1.98	1.85
	E4	2.42	2.52	2.07	1.98	2.24	2.26
	E5	2.22	2.01	1.92	2.08	2.07	2.05
	E6	3.23	2.25	2.47	1.89	2.85	2.08
		2.6	2.0	1.44	1.71	2.02	1.86
H	E1	.75	.71	.88	1.35	.82	1.08
	E2	.97	.74	1.22	.93	1.1	.84
	E3	.68	1.35	1.1	2.51	.89	2.01
	E4	1.2	2.01	1.18	1.63	1.19	1.83
	E5	.05	2.35	.5	1.7	.28	2.05
	E6	.35	.69	1.5	2.2	.93	1.63
		.67	1.47	1.06	1.8	.87	1.64
NT	E1	.43	.98	.65	1.09	.54	1.04
	E2	.07	1.11	.02	1.14	.05	1.13
	E3	.73	1.8	- .67	2.07	.03	1.94
	E4	.47	1.38	- .37	.91	.05	1.17
	E5	.65	1.82	- .77	.64	- .06	1.36
	E6	.27	1.46	- .12	2.66	.08	2.15
		.44	1.46	- .21	1.64	.11	1.55

FIGURE 3

ENURESIS RECORDS

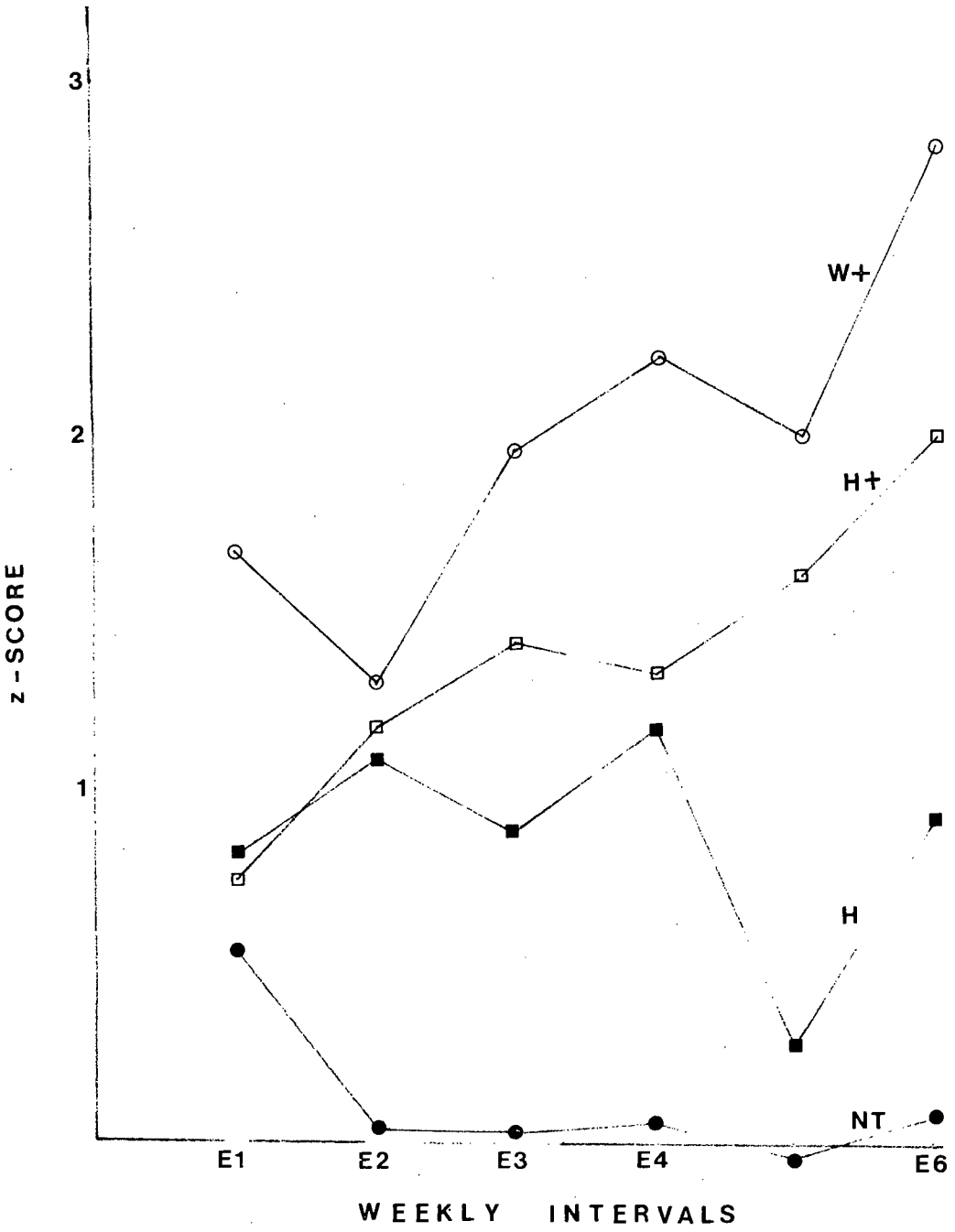

TABLE 8.

Enuresis Records in Dry Nights; Z-Scores for weekly intervals. Analysis of Variance

Source	M.S.	D.F.	F. Ratio
Between Subjects			
A (Type of Enuretic; PE,SE)	9.864	1	1.244
B (Treatment Conditions H+,W+,H,NT)	46.951	3	5.924 **
AB	8.270	3	1.043
Error Term	7.924	40	
Within Subjects			
C (Enuresis Records; E,1-6)	2.165	5	1.433
AC	.611	5	.404
BC	1.701	15	1.125
ABC	1.199	15	.793
Error Term	1.511	200	

TABLE 9.

Enuresis Records in Dry Nights; Z-Scores for weekly intervals. Simple Main Effects

Source	M.S.	D.F.	F. Ratio
B at C1 (E1)	3.013	3	1.167
B at C2 (E2)	4.081	3	1.581
B at C3 (E3)	8.227	3	3.188 *
B at C4 (E4)	9.710	3	3.763 *
B at C5 (E5)	12.602	3	4.884 **
B at C6 (E6)	17.821	3	6.907 **
Error Term	2.580	40	
C at B1 (H+)	2.203	5	1.4581 (.15)
C at B2 (W+)	3.282	5	2.172 (.1)
C at B3 (H)	1.230	5	.814
C at B4 NT	.5518	5	.365
Error Term	1.51125	200	

TABLE 10.

Enuresis Records in Dry Nights; Z-Scores for Weekly intervals. Sheffe Multiple comparisons between treatment conditions for the treatment period C,1-6 (E,1-6)

Treatment Conditions	Means Compared	Sheffe F Ratio
B1,B2,B3 vs B4 (HT vs NT)	1.424 vs .114	3.9 *
B1 vs B2 (H+ vs W+)	1.389 vs 2.019	.600
B1,B2 vs B3 (H+,W+ vs H)	1.704 vs .865	1.421
B1,B2 vs B4 (H+,W+ vs NT)	1.704 vs .114	5.104 **
B1 vs B3 (H+ vs H)	1.389 vs .114	.416
B2 vs B3 (W+ vs H)	2.019 vs .865	2.016
B1 vs B4 (H+ vs NT)	1.389 vs .114	2.461 (.1)
B2 vs B4 (W+ vs NT)	2.019 vs .114	5.495 **
B3 vs B4 (H vs NT)	.865 vs .114	.854

TABLE 11.

Enuresis Records in Dry Nights; Z-Scores for Weekly intervals. Tukey H.S.D. comparison between treatment conditions for the treatment period C,1-6 (E,1-6)

Treatment Conditions	Means Compared	Tukey H.S.D.Ratio
B1 vs B4 (H+ vs NT)	1.389 vs .114	3.843 *

Enuresis Records in Dry Nights, Z-Scores per weekly intervals over the treatment period. Interpretation of findings.

Table 7 refers to the relative mean Z-score improvement ratios established at weekly intervals for the six week period. Tests for simple main effects (Table 9), to investigate further the significant differences among the treatment conditions indicated by the significant B effect in the analysis of variance of this data (Table 8), indicated that while there was no significant difference among the treatment conditions over the first two weeks of treatment (Table 9, B at C1, B at C2) the groups were significantly different in the third, fourth, fifth and sixth weeks of treatment (Table 9, B at C3, $p < .05$; B at C4 $p < .05$, B at C5 $p < .01$, B at C6 $p < .01$).

From Figure 3, it was apparent that this result was owing to :-

(a) The steady improvement in those treatment conditions in which the tape recorded suggestions aimed at decreasing enuresis and maladjustment had been administered, following either a hypnotic induction (treatment condition H+) or task motivational instructions administered in the waking state aimed at enhancing expectancies, attitudes and motivations (treatment condition W+), over this period (Figure 3, E,3-6). This apparent improvement did not reach significance (Table 9, C at B1, C at B2) with this data. However significant improvement has already been demonstrated with the absolute enuresis data which

incorporated the base line data as an additional measure of variance.

(b) The maintenance or slight decrease of the improvement in the control conditions H (a hypnotic induction not succeeded by suggestions) and NT (no treatment, or no hypnosis or suggestion in terms of the design model). The initial improvement in the NT condition observed in Figure 3 was possibly owing to the effect of the standard instructions issued to parents at this stage (rewarding of dry nights and checking on toilet routines).

The differences between the treatment conditions were investigated further with the Sheffe multiple comparisons technique (Table 10). Comparisons were made between the treatment conditions with regard to the mean of the six, weekly interval Z-score ratios. Thus with regard to the full treatment period (E,1-6) Table 10 indicated :-

1. There was a significant difference between the means of the total hypnotherapy group (i.e. those subjects who received treatment HT, N=36) and the no treatment group NT (Table 10, B1,B2,B3 vs B4 $p < .05$). This result indicated confirmation of hypothesis 1.3, i.e. hypnotherapy (HT) was significantly more effective than no treatment in terms of enuresis decrease.
2. When individual Sheffe comparisons were made between the three forms of hypnotherapy (treatment conditions H+,W+ and H separately) and the no treatment condition NT, only the W+ treatment condition reached significance (Table 10, B2 vs B4 $p < .01$), with the H+ treatment condition reaching

the ten per cent level of significance (Table 10, B1 vs B4). However, use of the Tukey H.S.D. Static, a more sensitive measure for pairwise comparisons (Kirk,1968), showed the H+ condition to be significantly more effective than no treatment as well (Table 11, B1 vs B4, $p < .05$). This confirmed hypotheses 3.23 and 3.24.

3. There was no significant difference between the treatment conditions H+ and W+, as regards decrease in nocturnal enuresis (Table 10, B1 vs B2). This confirmation of hypothesis 3.1 provided support for Barber's alternative paradigm in this clinical application.
That is, there was no significant difference between a hypnotic induction and task motivational instructions aimed at enhancing expectancies, attitudes and motivations given in the waking state; with regard to the suggested changes in the dependent variable, i.e. decrease in enuresis. To phrase this in an alternative manner, suggestions aimed at decreasing enuresis, were as effective in decreasing enuresis whether they were preceeded by a hypnotic induction (H+) or task motivational instructions given in the waking state (W+).

4. The result that those treatment conditions which incorporated therapeutic suggestions following either a hypnotic induction (H+) or task motivational instructions administered in the waking state (W+), were not significantly more effective (either inclusively or separately) than a hypnotic induction without succeeding suggestions, treatment condition H, (Table 10, B1, B2 vs B3, B1 vs B3,

B2 vs B3) indicated that it could not be unequivocally concluded that the tape-recorded suggestions (when preceeded by the appropriate antecedent conditions) had been the active factors in producing therapeutic change. This would represent an ideal conclusion with regard to the theoretical design model used in the present study.

However, with regard to the six week treatment period :-

(a) As indicated in Table 6, those treatment conditions in which the tape recorded suggestions aimed at decreasing enuresis had been administered (H+ and W+), had each been associated with significant decreases in enuresis over the treatment period (Table 6, B1, C1 vs C2, $p < .01$; B2, C1 vs C2, $p < .01$) whereas this had not been the case with treatment condition H (Table 6, B3, C1 vs C2).

(b) Treatment conditions H+ and W+ were each significantly more effective than the no treatment condition NT as regards decrease in enuresis (Table 11, B1 vs B4, $p < .05$, Table 10, B2 vs B4, $p < .01$), whereas this had not been the case with treatment condition H (Table 10, B3 vs B4).

(c) Differences between the treatment conditions only became significant during the third week of treatment, in which time the pre-recorded suggestions aimed at decreasing enuresis were administered to treatment conditions H+ and W+ (Table 9, B at C3 and C4, $p < .05$; B at C5 and C6 $p < .01$). See Figure 3.

Thus the evidence would seem to point strongly and consistantly towards the efficacy of hypnotherapy being

primarily due to two factors :-

(a) The tape recorded suggestions aimed at decreasing enuresis and maladjustment.

(b) When preceeded by certain necessary antecedant conditions, either a hypnotic induction or task motivational instructions administered in the waking state aimed at enhancing expectancies, attitudes and motivations (Treatment conditions H+ and W+).

This does not deny the possibility of other factors contributing towards the significant therapeutic response; for example, training in increasing the "functional bladder capacity (Yeates, 1973; Zaleski et al, 1973, Starfield 1967) as intended and incorporated in the tape recorded suggestions. However, this does affirm that such factors were secondary. Further, the suggestions which were given prior to the induction of hypnosis for moral reasons to subjects in treatment condition H_2 served as an additional control in this respect. That is, the same suggestions (for example, bladder control exercises) when not preceeded by the appropriate antecedant conditions met with less success.

TABLE 12.

Enuresis Records in Dry Nights: Z-Score for 6 week intervals Group Scores.

Key: M refers to mean, S refers to Standard deviation, E1-E5 refer to 6 week intervals after (and including) the initial treatment session.

		PE: M	S	SE: M	S	PE+SE: M	S
H+	E1	1.42	1.02	1.36	.92	1.39	.97
	E2	1.46	1.43	1.8	1.35	1.63	1.39
	E3	1.86	1.09	1.69	1.51	1.77	1.32
	E4	1.95	.97	1.61	1.78	1.78	1.44
	E5	1.46	1.73	1.25	1.90	1.35	1.82
		1.63	1.28	1.54	1.53	1.59	1.41
W+	E1	2.59	1.31	1.45	1.20	2.02	1.26
	E2	2.50	2.01	1.84	1.77	2.17	2.09
	E3	2.43	2.08	1.95	1.42	2.19	1.78
	E4	2.62	1.71	1.08	1.77	1.85	1.74
	E5	2.97	2.27	1.24	1.55	2.11	1.94
		2.62	1.91	1.51	1.56	2.07	1.74
H	E1	.69	.89	1.04	1.57	.86	1.28
	E2	.36	.64	1.35	1.68	.86	1.27
	E3	1.48	.81	1.55	1.99	1.51	1.52
	E4	1.71	1.58	1.66	2.09	1.68	1.85
	E5	1.51	1.80	.64	.43	1.08	1.31
		1.15	1.23	1.25	1.66	1.2	1.46
NT	E1	.44	1.29	- .17	.85	.13	1.09
	E2	.72	.85	.22	2.35	.47	1.77
	E3	.39	.57	.37	1.43	.38	1.09
	E4	.54	1.37	.26	1.80	.40	1.6
	E5	.55	.82	1.02	2.55	.79	1.89
		.53	1.02	.34	1.9	.44	1.53

FIGURE 4

ENURESIS RECORDS

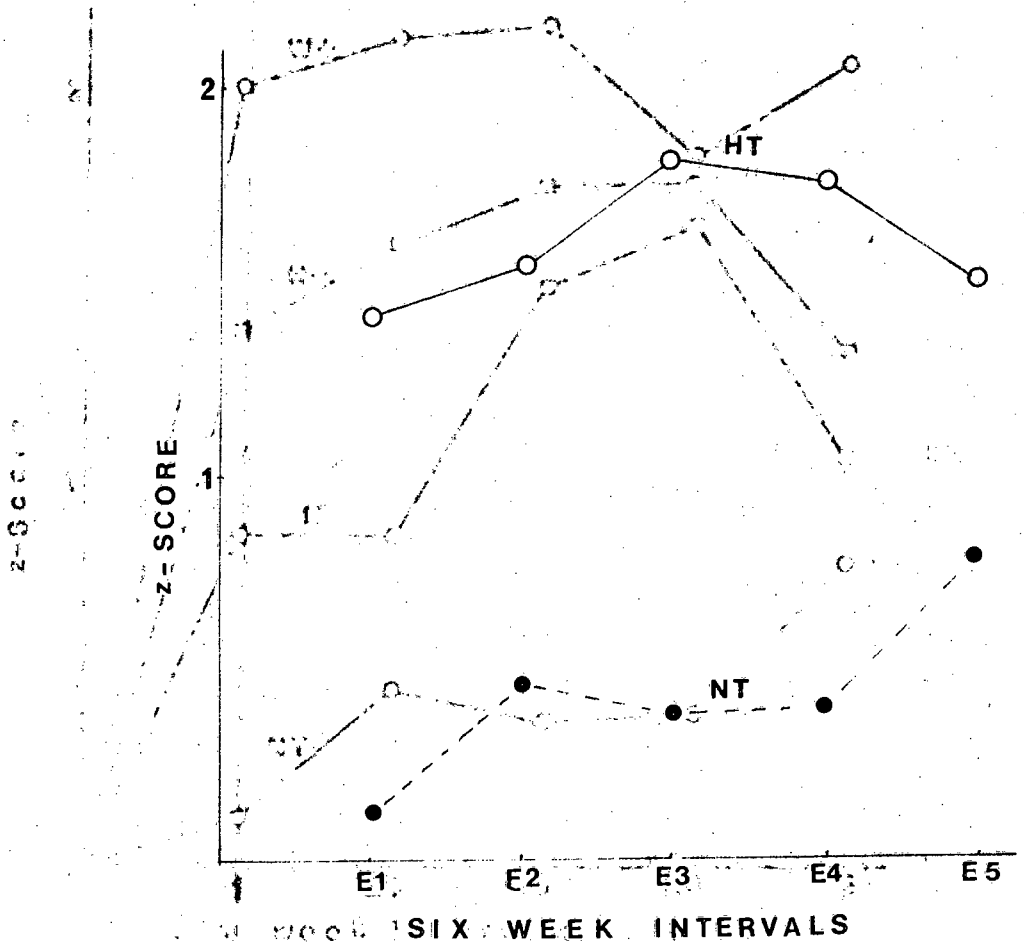

FIGURE 5

ENURESIS RECORDS

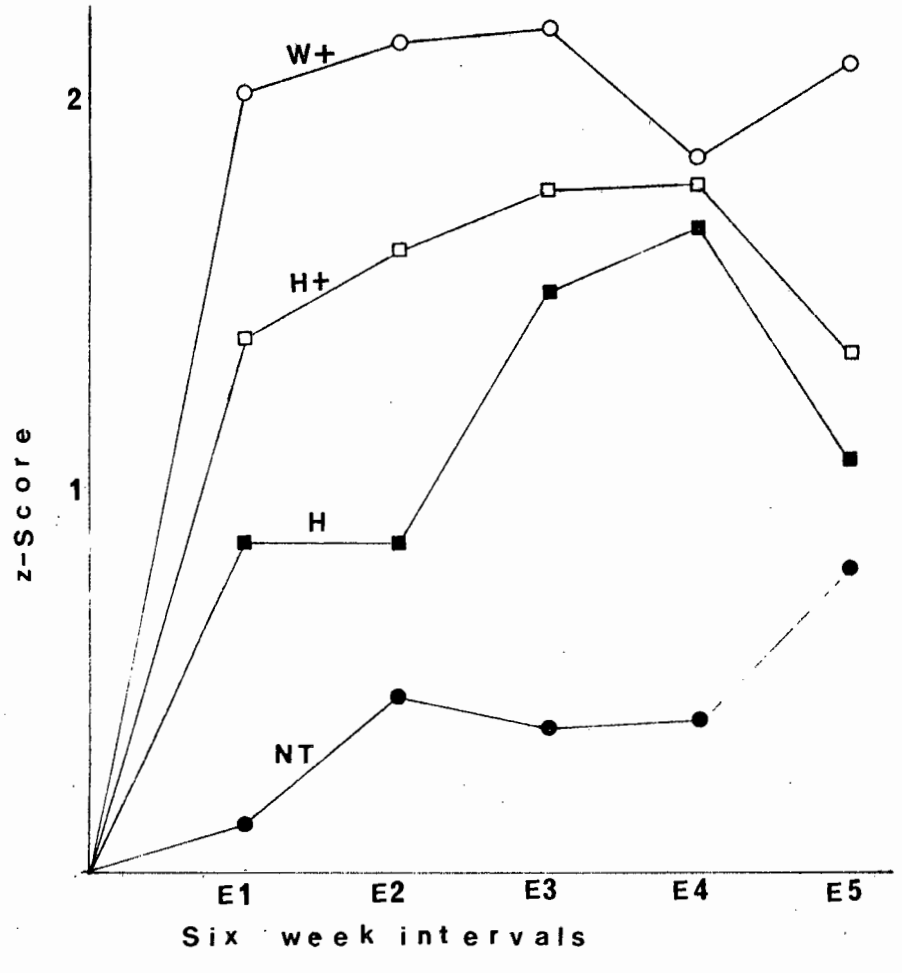

TABLE 13.

Enuresis Records; Z-Scores per six week interval. Analysis of Variance.

Source	M.S.	D.F.	F. Ratio
Between Subjects			
A (Type of Enuretic; PE,SE)	6.115	1	.654
B (Treatment Conditions H+,W+,H,NT)	28.519	3	3.052 *
AB	4.368	3	.467
Error Term	9.341	40	.467
Within Subjects			
C (Enuresis records; Z-Scores; E,1-5)	.979	4	1.559
AC	.859	4	1.369
BC	.716	12	1.140
ABC	.712	12	1.134
Error Term	.627	160	

TABLE 14.

Enuresis Records, Z-Scores for six week intervals. Sheffe Multiple comparisons between treatment conditions for treatment and follow up period C1-5, (E,1-5).

Treatment Conditions	Means Compared	Sheffe F Ratio
B1,B2,B3 vs B4(HT vs NT)	1.616 vs .434	2.244 (.1)
B1 vs B4 (H+ vs NT)	1.585 vs .434	1.419
B2 vs B4 (W+ vs NT)	2.065 vs .434	2.849 *
B3 vs B4 (H vs NT)	1.198 vs .434	.625
B1,B2 vs B4 (H+,W+ vs NT)	1.825 vs .434	2.763 (.1)

Enuresis Records in Dry Nights, Z-Scores per six week interval over the treatment and follow up period. Interpretation of findings.

Further analysis was performed to ascertain the relative efficacy of the treatment conditions until the six month follow-up period. Table 12 refers to the enuresis records in mean Z-Score improvement ratios established at six week intervals. The significant difference among the treatment conditions as indicated by the analysis of variance of this data (Table 13, B effect $p < .05$) was investigated further with the Sheffe multiple comparisons technique.

Comparisons among the treatment conditions with regard to the mean of the five, six week interval Z-Score ratios are shown in Table 14. This indicated that the total hypnotherapy group (HT, N=36) was no longer significantly more effective than no treatment. (Table 14, B1,B2,B3 vs B4, $p < .1$). However, the fact that the comparison reached the one per cent level of significance, again illustrated the maintenance of the therapeutic response. See Figure 4. When the three forms of hypnotherapy were individually compared with the no treatment group, treatment condition W+ remained significantly more effective than no treatment (Table 14, B2 vs B4, $p < .05$). See Figure 5.

This result that suggestions aimed at decreasing nocturnal enuresis and maladjustment administered after task motivational given in the waking state (W+) were significantly more effective than no hypnosis or suggestions (treatment

condition NT), whereas these suggestions, when preceeded by a hypnotic induction (H+) were not (Table 14, B1 vs B4), again provided support for Barber's alternative paradigm. Put another way, let alone their being no significant difference between the treatment conditions H+ and W+ with regard to changes in the dependent variable, decrease in enuresis, the former, W+, (a clinical application of Barber's paradigm) was actually significantly more effective than no hypnosis or suggestions (NT) whereas the latter was not.

The comparison between the no treatment condition (NT) and those treatment conditions where suggestions were administered following either a hypnotic induction (H+) or task motivational instructions given in the waking state (W+), did not quite reach significance (Table 14, B1,B2 vs B4). However, the proximity of the F Ratio (2.76) to the accepted level (2.84) emphasized the previous conclusion (with regard to the treatment period) that the suggestions when preceeded by the appropriate antecedant conditions, had been the primary elements in the efficacy of hypnotherapy.

The superiority of the treatment condition W+ over no treatment (NT) indicated that the appropriate or necessary antecedant conditions for the effectiveness of suggestions would seem to have been the enhancement of positive expectancies, attitudes, motivations, and thinking with and vividly imagining the suggestions, whether these conditions are provided in the waking state or what has been traditionally termed a hypnotic induction.

TABLE 15.

Enuresis Records in Dry Nights; Z-Score per six week interval. Subjects who improved significantly.

Enuresis Records	Treatment Conditions			
	H+	W+	H	NT
E1	5	4	1	1
E2	4	4	1	1
E3	3	7	2	1
E4	5	7	3	2
E5	2	6	1	2
Mean	3.8	5.6	1.6	1.4
Percentage	32%	47%	13.3%	11.7%

Table 15 refers to the number of subjects who reached the five per cent level of improvement per treatment condition at each of the five measures (E,1-5) of the dependent variable.

Because of the small number of scores involved in the calculation of the sample standard deviation (i.e. the pretreatment period consisted of a minimum of 11 scores) used to estimate the population standard deviation for each individual subject, the t distribution was used to estimate significant improvement. Since there are 6 scores which make up the mean of each six week interval, there are thus 5 degrees of freedom, and the significance of the "Z-Scores" based on these means, was obtained from the t distribution

with 5 degrees of freedom and five per cent in the upper tail (one tailed test). From tables the value of this t is 2.015. See Appendix B for individual scores.

With regard to the mean number of subjects per treatment condition, per measure of the dependent variable, Table 15 indicated the percentage of subjects in each treatment condition (N = 12), who improved significantly. The superiority of the treatment condition W+ (47%) was again apparent. This would seem especially owing to the number of subjects reaching significant improvement levels with regard to measures E3,E4 and E5.

While Table 15 indicates significant improvement, it does not indicate cessation of enuresis or cure. As many researchers view enuresis as a discontinuous rather than quantitative variable, the focus of research has been on "cure" rather than improvement. In addition this would seem more pertinent to both patient and clinician, from a more practical clinical point of view. Results on the outcome of hypnotherapy in terms of "cure" will be presented presently.

To sum up at this point: results so far have been concerned mainly with the confirmation of hypotheses. Briefly, hypnotherapy as defined in the present study, (HT, N = 36) was found to be significantly more effective than no treatment and was associated with a significant decrease in enuresis, in terms of pretreatment base-line enuresis. The

efficacy of the method seems to have been primarily due to certain necessary conditions; the enhancement of positive expectancies, attitudes, motivations and thinking with and vividly imagining the therapeutic suggestions. One treatment condition (W+) which incorporated these necessary conditions was significantly more effective than no treatment over a six month follow-up period.

TABLE 16.

Enuresis Records in Wet Nights per Month.

Key: E0 refers to the month immediately preceeding treatment. E, 1, E2 and E4 refer to the first, second and fourth monthly interval after and including the initial treatment session. Asterisks * and ** indicate those subjects excluded from comparison with the results of Kolvin et al (1972) and Werry and Cohrssen (1965) respectively.

	PE: E0	E1	E2	E4	SE: E0	E1	E2	E4
H+S1	* 9	8	2	2	** 2	1	0	0
S2	29	22	30	18	* 7	2	2	0
S3	27	17	19	20	25	12	4	18
S4	31	19	10	13	* 11	8	10	3
S5	27	19	14	11	31	22	15	10
S6	21	15	7	4	14	2	0	0
	24.0	16.7	13.7	10.8	15.0	7.8	5.2	5.2
W+S1	19	12	3	2	23	12	4	4
S2	31	18	25	15	13	8	2	0
S3	19	6	3	6	25	12	0	8
S4	28	8	13	25	** 2	0	0	0
S5	31	9	9	5	15	13	4	3
S6	31	27	24	31	30	17	24	19
	26.5	13.3	12.8	14.0	18.0	11.7	5.7	5.7
H S1	* 6	11	15	0	15	2	0	0
S2	* 11	16	24	8	** 3	4	1	0
S3	31	28	31	18	** 2	1	0	0
S4	28	19	21	20	20	6	4	1
S5	12	0	0	0	* 6	7	8	7
S6	27	25	23	25	** 2	1	0	0
	19.2	16.5	19	11.8	8.0	3.5	2.2	1.3
NTS1	30	11	17	15	26	23	26	23
S2	12	11	10	8	* 10	10	20	16
S3	21	19	20	19	27	25	27	24
S4	31	30	29	28	* 4	8	6	5
S5	31	31	31	31	27	26	12	9
S6	31	31	27	31	23	24	28	21
	26.0	22.2	22.3	22.0	19.5	19.3	19.8	16.3

TABLE 18.

Data for the comparison with the research of Kolvin et al., 1972.

Key: E1, E2 and E4 refer to percentage improvement in the first second and fourth monthly interval after and including the initial treatment session. The asterisks * indicate those subjects excluded from the comparison.

	PE: E1	E2	E4	SE: E1	E2	E4
H+ S1	* 11	78	78	* 50	100	100
S2	24	- 3	38	* 71	71	100
S3	37	30	26	52	84	28
S4	39	68	58	* 27	9	73
S5	30	48	59	29	52	68
S6	29	67	81	86	100	100
	28.3	48.0	56.7	52.5	69.3	78.2
W+ S1	37	84	89	48	83	83
S2	41	19	52	38	85	100
S3	68	84	68	52	100	68
S4	71	54	10	* 100	100	100
S5	70	70	84	13	73	80
S6	13	23	0	43	20	0
	50.0	55.7	50.5	49.0	76.8	78.0
H S1	*- 83	-150	100	86	100	100
S2	*- 45	-118	27	*- 33	50	100
S3	10	0	41	* 50	100	100
S4	32	33	28	70	80	95
S5	100	100	100	*- 17	- 33	- 17
S6	7	15	7	* 50	100	100
	3.5	- 20	50.5	34.3	66.2	79.7
NT S1	63	43	50	12	0	12
S2	8	17	33	* 0	-100	- 60
S3	9	5	9	7	0	11
S4	3	6	10	*-100	- 50	- 25
S5	0	0	0	4	56	66
S6	0	13	0	- 4	- 21	9
	13.8	14.0	17.0	-13.5	-19.2	2.2

4.2.2

The Efficacy of Hypnotherapy in terms of cure and comparison with other methods of treatment.

The fact that full enuresis records were obtained for all 48 subjects for the duration of this research, enabled the data to be converted to suit different methods of calculating outcome in terms of cure, and direct comparisons were able to be made with other methods of treatment. Comparisons were made with three other studies each with a different method of estimating outcome.

In Werry and Cohrssen's (1965) study, the number of wet beds in the fourth month of their therapeutic trial was expressed as a percentage of the pretrial monthly frequency and five categories of the therapeutic response delineated :-

1. 0 per cent = cure (no wet beds during the fourth month).
2. 1 to 35 per cent = greatly improved.
3. 36 to 69 per cent = moderately improved.
4. 70 to 100 per cent = unchanged.
5. 100 per cent plus = worse.

Kolvin et al (1972) calculated outcome in terms of percentage improvement with the formula :-

$$\frac{\text{Wetting per month before treatment-wetting per month after treatment}}{\text{Wetting per month before treatment.}} \times 100$$

Cut off points were established at 40 and 80 per cent levels of improvement. The 80 per cent or higher

improvement level constituted the cure or near cure criterion.

A cure criterion of 13 consecutive dry days within 90 days after treatment initiation was used by De Leon and Mandell (1966).

For comparison with the results of Werry and Cohrssen (1965) and that of Kolvin et al (1972) the enuresis data of the present study was converted into wet nights in monthly intervals, and the percentage calculations performed (Tables 16, 17, and 18).

Comparisons of results always offers difficulties. Consequently the following discussion is needed. The raw data dables 16, 17, 18 and 19 containing individual scores are presented at this stage to indicate those subjects excluded from the various comparisons. This data is presented in the 2 x 4 design form for consistancy.

With regard to the percentage improvement data of Kolvin et al (1972),(Table 18), no 2 x 4 statistical analysis of variance with repeated C measures was performed, as the percentage improvement method of calculation reflects the problem of pre-existing differences between the groups, both primary and secondary (factor A) and treatment conditions (factor B), with regard to base-line enuresis frequency, over which the percentage improvement is calculated. This problem was previously apparent with regard to the absolute enuresis data in dry nights, and it was for this reason that the Z-Score index, which minimizes the problem, was used. This problem of differing base-lines can be overcome by using a more stringent pretreatment definition of enuresis. For example, Kolvin

et al. (1972) had a cut-off point of at least three wet nights per week. However, this results in smaller cells of unequal size (i.e. less than 6). Consequently comparisons with other research involve only the total hypnotherapy group (H+, N=36) for adequate sample size.

An additional purpose of the preceding paragraph is to prevent a misleading view of the relative effectiveness of the groups. For example, with regard to Tables 17, 18 and 19, the treatment condition H may appear to be as effective, with regard to "cure" as treatment conditions H+ and W+. This is due to both the initially high base level enuresis frequency in this group (H), as was observed in Figure 2 (p. 88) as well as the method of calculation. As indicated by the asterisks in Tables 17 and 18, subjects who were excluded from comparisons with the research of Werry and Cohrssen (1965) and Kolvin et al (1972), owing to their more stringent pretreatment enuresis criteria, came mainly from this treatment condition H.

Comparison with the research of Werry and Cohrssen (1965):

These researchers compared the efficacy of the bedbuzzer, psychotherapy which was "essentially psychodynamically oriented" and supplemented by suggestion and encouragement and no treatment in a four month controlled trial. Their main findings were that the buzzer was significantly more effective than either no treatment or psychotherapy, which latter treatments did not differ from each other in efficacy.

Five subjects had to be excluded from the hypnotherapy group (i.e. HT, N=31) for comparison with this research as they had not met the pretreatment criterion of enuresis of at least one wet night per week over the monthly pretreatment trial. See Table 17.

TABLE 20.

Treatment Groups	Therapeutic Response			
	Cure	Greatly Improved	Improved	Unchanged or worse
A. No treatment (N=27)	1 (3.7%)	2 (7.4%)	5(18.5%)	19(&0.3%)
B. Brief psychotherapy(N=21)	2 (9.5%)	2 (9.5%)	3(14.3%)	14(66.7%)
C. Bedbuzzer(N=22)	7(31.8%)	6(27.3%)	4(18.2%)	5 (22.7%)
D. Hypnotherapy (N=31)	6(19.4%)	11(35.5%)	6(19.4%)	8(25.8%)

Comparison	Statistic	Degrees of Freedom	Significance Level
1. χ^2AD	12.214	1	$p < .01$
2. χ^2BD	6.66	1	$p < .01$
3. χ^2CD	1.145	3	N.S.

Table 20 refers to the results of Werry and Cohrssen's (1965) study with regard to A, no treatment, B, brief psychotherapy, C, the bedbuzzer. Included are the 31 subjects of the present study (D Hypnotherapy) classified into the appropriate categories of the therapeutic response for

comparison. With regard to the three Chi-Squared tests of association involved :-

(a) A direct comparison with the bedbuzzer along all categories of the therapeutic response was possible and it was found that there was no significant difference with regard to the efficacy of the two treatment regimes (Table 20, χ^2CD).

(b) Direct comparison along all categories of response was not possible with the no treatment and psychotherapy groups owing to the small expected frequencies of the cells, (which violates the requirement of fewer than 20 per cent of the cells having an expected frequency of less than 5 (Siegel 1971, p.178)). Consequently comparisons were made at the "cure" and greatly improved level. It was found that hypnotherapy was significantly more effective than either no treatment or brief psychotherapy at this level (Table 20, χ^2AD, $p < .01$, χ^2BD $p < .01$).

Comparison with the research of Kolvin et al., (1972):

These researchers compared the efficacy of placebo, the buzzer and imipramine over a two month treatment trial, with a follow-up in the fourth month after treatment. Both the buzzer and imipramine were found to be significantly more effective than placebo with regard to the cure or 80 per cent level of improvement at two months. These researchers' enuresis criterion of at least three wet nights per week, necessitated the exclusion of 11 subjects from the hypnotherapy group (HT, N=25) for comparison purposes. See Table 18.

TABLE 21.

Key: N refers to number of subjects in each group.
E refers to mean number of wet nights per month.
% refers to mean percentage improvement.

	Placebo		Buzzer		Imipramine		Hypnotherapy	
	E	N	E	N	E	N	E	N
Pretreatment month	20.9	27	22.0	32	22.7	35	24.1	25
Treatment Month 1	11.3	27	11.1	32	10.0	35	14.0	25
Treatment Month 2	11.0	27	9.1	32	9.3	35	11.6	25
Follow-up Month 4	11.3	26	9.3	28	13.4	30	11.0	25
Percentage Improvement	%		%		%		%	
Month 1	49.9	27	51.6	32	59.4	35	45.0	25
Month 2	52.8	27	61.7	32	63.5	35	58.8	25
Month 4	54.3	26	63.5	28	42.7	30	60.0	25

TABLE 22.

Key: % indicates percentage of subjects who improved per group. N. indicates number of subjects.

	Placebo		Buzzer		Imipramine		Hypnotherapy	
	%	N	%	N	%	N	%	N
Over 80% Month 1	11	3/27	15	5/32	37	13/35	16	4/25
Month 2	18	5/27	52	17/32	45	16/35	40	10/25
Month 4	42	11/26	50	14/28	30	9/30	40	10/25
Over 40% Month 1	62	17/27	69	22/32	71	25/35	52	13/25
Month 2	59	16/27	72	23/32	80	28/35	68	17/25
Month 4	58	15/26	71	20/28	60	18/30	68	17/25

TABLE 23.

Chi-Squared tests of association at the 80 per cent level, Month 2.

Key : H refers to Hypnotherapy, P refers to Placebo, B refers to Buzzer and I refers to Imipramine.

Comparison	Statistic	Degrees of Freedom	Significance level
1. X^2 HP	2.918	1	$p < .1$
2. X^2 HB	.97	1	N.S.
3. X^2 HI	.194	1	N.S.

Tables 21 and 22 refer to the results of the research of Kolvin et al. (1972), with the inclusion of the 25 subjects of the hypnotherapy group as an additional treatment regime for comparison. The mean percentage improvement levels in Table 21, indicated that hypnotherapy was slower than the other regimes with regard to initial improvement (Month 1). This may be owing to either (a) the higher mean pretreatment enuresis frequency (24.1) in the 25 subjects selected for comparison, or (b) possibly more spontaneous remission in the other regimes. However, with regard to months 2 and 4 :-

(a) Hypnotherapy was more effective than placebo.

(b) Although not having the initial effectiveness (months 1 and 2) of Imipramine, there was no startling relapse after treatment.

(c) Hypnotherapy generally resembled the supposed conditioning response of the buzzer (Kolvin et al. 1972; Turner, 1973) although improvement was not as high.

A number of Chi-Squared tests of association were performed, with no significant differences between the treatment regimes at both the 40 and 80 per cent level (See Table 22).

While the comparison between hypnotherapy and placebo did not reach the accepted .05 level of significance (Table 23 X^2HP, $p < .1$) at the 80 per cent month 2 level, this was probably due to the higher pretreatment mean number of wet nights (24.1) than the placebo group (20.9) as indicated in Table 21.

Comparison with the research of De Leon and Mandell (1966).

These researchers compared the efficacy of the buzzer, psychotherapy of an unspecified nature (12 sessions) and no treatment in a 90 day treatment trial. Cure was defined as 13 consecutive dry days within this 90 day period. Two subjects who had not met the 13 day pretreatment enuresis criterion were excluded from the hypnotherapy group for the following comparison.

TABLE 24.

	A, Buzzer		B, Psychotherapy		C, No Treatment		D, Hypnotherapy	
	N	%	N	%	N	%	N	%
Cure	44	86.3	2	18.2	2	11.1	21	61.8
Failure	7	13.7	9	81.8	16	88.9	13	38.2

Comparison	Statistic	Degrees of Freedom	Significance Level
1. X^2AD	6.8109	1	$p < .01$
2. X^2BD	6.3178	1	$p < .05$
3. X^2CD	12.2419	1	$p < .01$

As was previously shown in the comparison with the results of Werry and Cohrssen (1965), hypnotherapy was again found to be significantly more effective than either brief psychotherapy (12 sessions) or no treatment (Table 24, X^2BD, $p < .05$ and X^2CD, $p < .01$ respectively). On the other hand, in this comparison, the buzzer was significantly more effective than hypnotherapy (Table 24, X^2AD, $p < .01$).

Generally the buzzer would appear to have been more effective than hypnotherapy, although no significant differences in efficacy were obtained in the other two comparisons, with the research of Werry and Cohrssen (1965) and Kolvin et al. (1972). However, it should be noted that in all comparisons, the treatment with the buzzer was of a longer duration than the treatment in the present study (6 sessions over 6 weeks). For example, in this comparison with the research of De Leon and Mandell (1966), treatment with the buzzer consisted of 90 conditioning trials over 90 days.

4.2.3 The Efficacy of Hypnotherapy as regards decrease in Maladjustment.

TABLE 25.

The Junior E.P.I. Neuroticism, Group Scores.

Key: M refers to mean, S refers to standard deviation, T1, T2, T3 refer to pretreatment post treatment and follow-up testing (six months after treatment).

		PE:M	S	SE:M	S	PE+SE: M	S
H+	T1	10.17	3.71	13.17	3.25	11.67	3.48
	T2	9.67	5.04	10.17	5.04	9.92	5.04
	T3	5.5	5.65	7.17	4.22	6.33	4.99
W+	T1	12.67	4.50	13.5	5.47	13.08	5.01
	T2	12.83	4.62	14	4.98	13.42	4.81
	T3	13.17	5.08	15.17	7.44	14.17	6.37
H	T1	11.67	3.83	10.83	6.43	11.25	5.29
	T2	9	6.23	9.5	6.53	9.25	6.38
	T3	7.83	3.76	8.67	6.06	8.25	5.04
NT	T1	10.5	6.28	13.67	4.76	12.08	5.58
	T2						
	T3	8.33	7.14	14.67	5.09	11.75	6.2

FIGURE 6

THE JUNIOR E.P.I. NEUROTICISM

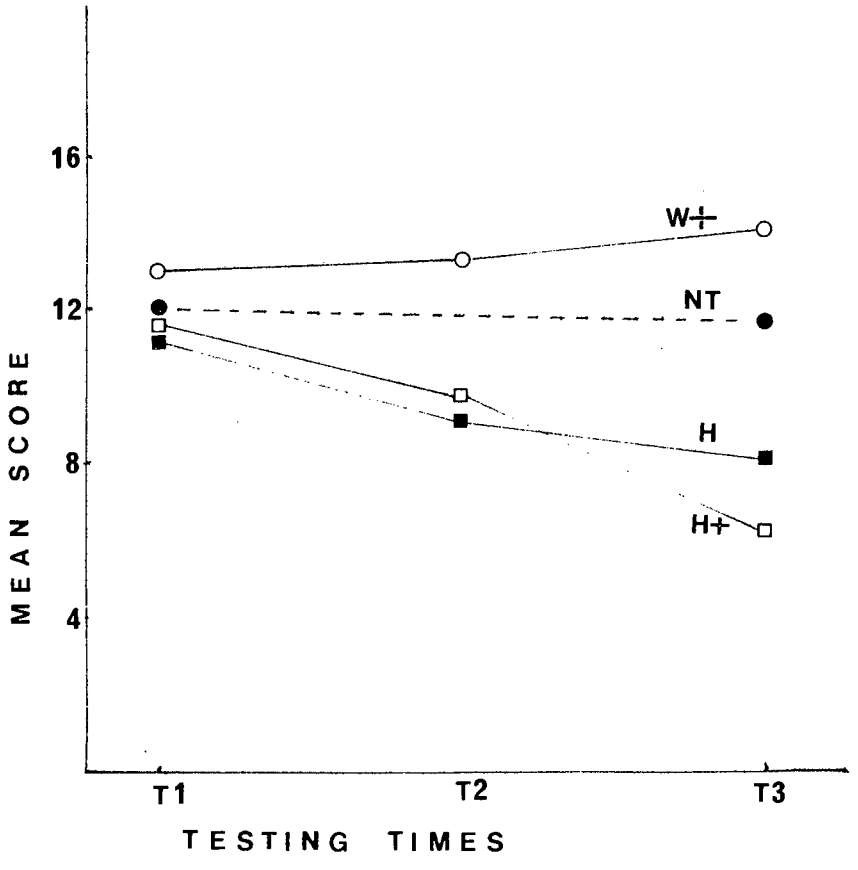

TABLE 26.

The Junior E.P.I., Neuroticism; Analysis of Variance.

Source	M.S.	D.F.	F. Ratio
Between Subjects			
A (Type of Enuretic; PE,SE)	31.148	1	.522
B (Treatment Conditions; H+, W+, H)	203.51	2	3.413 *
AB	5.897	2	-.098
Error Term	59.611	30	
Within Subjects			
C (Tests: T1,T2,T3, 36 subjects)	52.621	2	4.747 *
AC	1.397	2	.126
BC	33.883	4	3.057 *
ABC	3.356	4	.302

TABLE 27.

The Junior E.P.I., Neuroticism, Simple Main Effects.

Source	M.S.	D.F.	F. Ratio
B at C1 (T1)	11.083	2	.406
B at C2 (T2)	60.110	2	2.205
B at C3 (T3)	200.085	2	7.340 **
Error Term	27.259	90	
C at B1 (H+)	88.695	2	8.002 **
C at B2 (W+)	3.695	2	.333
C at B3 (H)	27.999	2	2.526 (.1)
Error Term	11.083	60	

TABLE 28.

The Junior E.P.I. Neuroticism; Analysis of Variance.

Source	M.S.	D.F.	F. Ratio
Between Subjects			
A (Type of Enuretic; PE,SE)	102.094	1	2.237
B (Treatment condition, H+, W+, H, NT)	106.177	3	2.326
AB	21.371	3	.468
Error Term	45.371	40	
Within Subjects			
C (Tests: T1, T3)	86.261	1	8.013 **
AC	6.509	1	.604
BC	48.704	3	4.524 **
ABC	4.343	3	.403
Error Term	10.764	40	

TABLE 29.

The Junior E.P.I. Neuroticism; Simple Main Effects.

Source	M.S.	D.F.	F. Ratio
B at C1 (T1)	7.410	3	.262
B at C2 (T3)	147.474	3	5.229 **
Error Term	28.197	80	
C at B1 (H+)	170.667	1	15.854 **
C at B2 (W+)	7.041	1	.654
C at B3 (H)	54	1	5.016 *
C at B4 (NT)	.667	1	-.062
Error Term	10.764	10	

TABLE 30.

The Junior E.P.I. Neuroticism, Tukey H.S.D. Pairwise Comparisons.

Treatment Conditions	Means	Tukey H.S.D.Ratio
H+ vs W+ (at T3)	6.333 vs 14.166	4.017 *

The Junior E.P.I. Neuroticism. Interpretation of findings.

Table 25 refers to the means and standard deviation scores of the various groups with regard to pre-treatment, post treatment and six month follow-up testing on neuroticism as measured by the Junior E.P.I.

As there was no "post treatment" testing phase for the no treatment group as indicated in Table 25, the analyses of variance with regard to the four measures of "maladjustment" (neuroticism as measured on the Junior E.P.I. and CPQ anxiety as measured on the CPQ and presence of behavioual abnormalities as measured by Child Scale A) are presented both with and without the no treatment condition, i.e.

(a) With the thirty-six treatment subjects (HT) i.e. treatment conditions H+, W+ and H, and three measures of the dependent variable. (Owing to missing data, the post treatment testing phase on Child Scale A was excluded).

(b) With all four treatment conditions (N=48) and two measures of the dependent variable.

Table 26 refers to the analysis of variance of the thirty-six treatment subjects (conditions H, W+ and H) with regard to neuroticism (E.P.I.) as measured before treatment, after treatment and at the 6 month follow-up. Analysis of simple main effects (Table 27) was indicated by the significant BC interaction. This indicated that the treatment conditions did not differ with regard to the pretreatment measure (Table 27, B at C1). While the decrease in neuroticism

shown in Figure 6 did not reach significance immediately after treatment (Table 27, B at C2), there had been a significant decrease at follow-up testing (Table 27, B at C3, $p < .01$), which was due mainly to the efficacy of treatment condition H+ (Table 27, C at B1, $p < .01$). A corresponding but non significant decrease in neuroticism in treatment condition H (Table 27, C at B3, $p < .1$) suggested that the decrease in neuroticism might be associated with the induction of hypnosis i.e. the H factor with the suggestions of relaxation etc. involved.

This was clarified in the analysis of variance which included the no treatment condition NT and excluded the post treatment testing scores (Table 28), where the tests for simple main effects (Table 29) of the significant BC interaction, indicated that the significant difference between the treatment conditions on follow-up testing (Table 29, B at C2, $p < .01$) was associated with significant decreases in both treatment conditions which incorporated a hypnotic induction[1] (Table 29, C at B1, $p < .01$ and C at B2, $p < .05$) whereas there were no significant decreases in the other treatment conditions.

While the Sheffe multiple comparisons technique did not show any significant differences between

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1 It is not known to what extent the suggestions given for moral reasons prior to the induction of hypnosis in treatment condition H influenced the result in the case of this form of hypnotherapy.

the treatment conditions, the more sensitive Tukey H.S.D. statistic showed a significant difference between treatment conditions H+ and W+ on the follow-up measure (Table 30, H+ vs W+, $p < .05$). This indicated that suggestions when preceded by a hypnotic induction were significantly more effective than when preceeded by task motivational instructions with regard to a decrease in neuroticism.

TABLE 31.

The CPQ Neuroticism Group Scores.

Key: M refers to mean, S refers to standard deviation, T1, T2, T3 refer to pretreatment, post treatment and follow-up testing (six months after treatment).

		PE: M	S	SE: M	S	PE+SE: M	S
H+	T1	5.12	1.55	6.38	1.39	5.75	1.47
	T2	4.81	1.54	5.54	1.22	5.18	1.39
	T3	4.68	1.27	5.44	.47	5.06	.96
W+	T1	6.24	.36	6.16	.99	6.2	.75
	T2	6.37	.95	5.71	.92	6.04	.93
	T3	5.72	.94	5.93	.42	5.83	.73
H	T1	5.54	.97	6.16	1.13	5.85	1.05
	T2	5.48	.97	5.82	.94	5.65	.95
	T3	5.14	.71	5.75	1.33	5.45	.89
NT	T1	4.81	1.36	6.67	.97	5.74	1.18
	T3	4.76	2.02	6.05	.36	5.41	1.45

FIGURE 7

THE CPQ NEUROTICISM

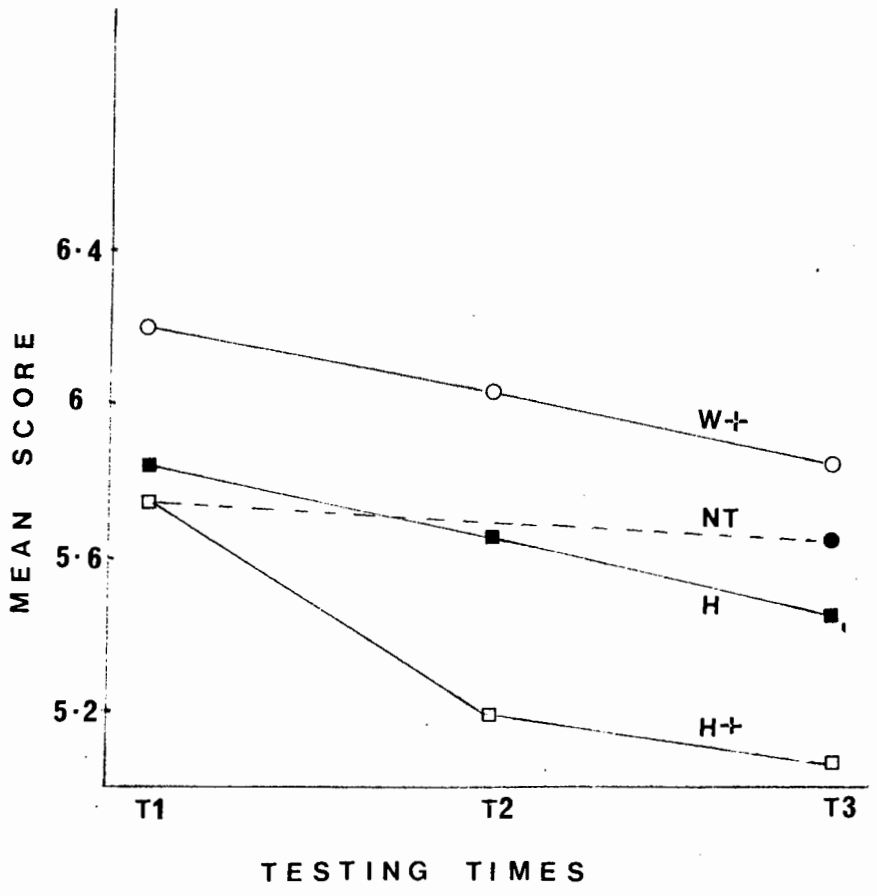


TABLE 32.

The CPQ Neuroticism; Analysis of Variance.

Source	M.S.	D.F.	F. Ratio
Between Subjects			
A (Type of Enuretic; PE,SE)	4.743	1	1.739
B (Treatment Condition H+, W+, H)	4.331	2	1.017
AB	2.773	2	1.017
Error Term	2.726	30	
Within Subjects			
C (Tests T1,T2,T3)	2.193	2	6.770 *
AC	.561	2	1.734
BC	.168	4	.518
ABC	.187	4	.579
Error Term	.323	60	

TABLE 33.

The CPQ Neuroticism; Analysis of Variance.

Source	MS.	D.F.	F. Ratio
Between Subjects			
A (Type of Enuretic; PE,SE)	15.917	1	7.690 *
B (Treatment Condition H+, W+, H, NT)	1.580	3	.7638
AB	2.439	3	1.178
Error Term	2.069	40	
Within Subjects			
C (Tests T1,T3)	4.828	1	11.841 **
AC	.244	1	.599
BC	.157	3	.385
ABC	.254	3	.623
Error Term	.407	40	

TABLE 34.

The CPQ Neuroticism; Simple Main Effects.

Source	M.S.	D.F.	F.Ratio
C at B1 (H+)	2.83557	1	6.95375 *
C at B2 (W+)	.843872	1	2.06945
C at B3 (H)	.963989	1	2.36402
C at B4 (NT)	.656616	1	1.61024
Error Term	.407776	40	

The CPQ Neuroticism; Interpretation of findings.

Table 31 refers to the mean and standard deviation scores of the various groups with regard to pre-treatment, post treatment and six month follow-up testing on neuroticism as measured by the CPQ.

With inspection of Figure 7, the significant C effect observed in Table 32 again indicated that hypnotherapy (i.e. NT, N=36) had resulted in a significant decrease in neuroticism ($p < .05$) as was the case with the Junior EPI. data. Tests for simple main effects on the analysis of variance that included the no treatment condition (Table 33) indicated that one form of hypnotherapy (H+) when viewed separately resulted in a significant decrease in neuroticism (Table 34, C at B1, $p < .05$).

TABLE 35.

The CPQ Anxiety, Group Scores.

Key: M refers to mean, S refers to standard deviation, T1, T2, T3 refer to pretreatment, post treatment and follow-up testing.

		PE: M	S	SE: M	S	PE+SE M	S
H+	T1	5.05	1.72	5.92	1.75	5.49	1.73
	T2	4.95	1.73	5.32	1.85	5.14	1.79
	T3	4.57	1.22	5.22	.81	4.9	1.04
W+	T1	6.22	1.0	6.35	1.15	6.29	1.08
	T2	6.25	.9	5.87	1.14	6.06	1.03
	T3	5.9	1.27	6.38	.87	6.14	1.09
H	T1	5.32	1.97	5.7	.93	5.51	1.54
	T2	5.32	1.51	5.82	1.35	5.57	1.43
	T3	4.9	1.05	5.57	1.64	5.24	1.38
NT	T1	4.6	1.58	6.7	.75	5.65	1.24
	T3	4.48	2.02	6.6	.84	5.54	1.54

FIGURE 8

THE CPQ ANXIETY

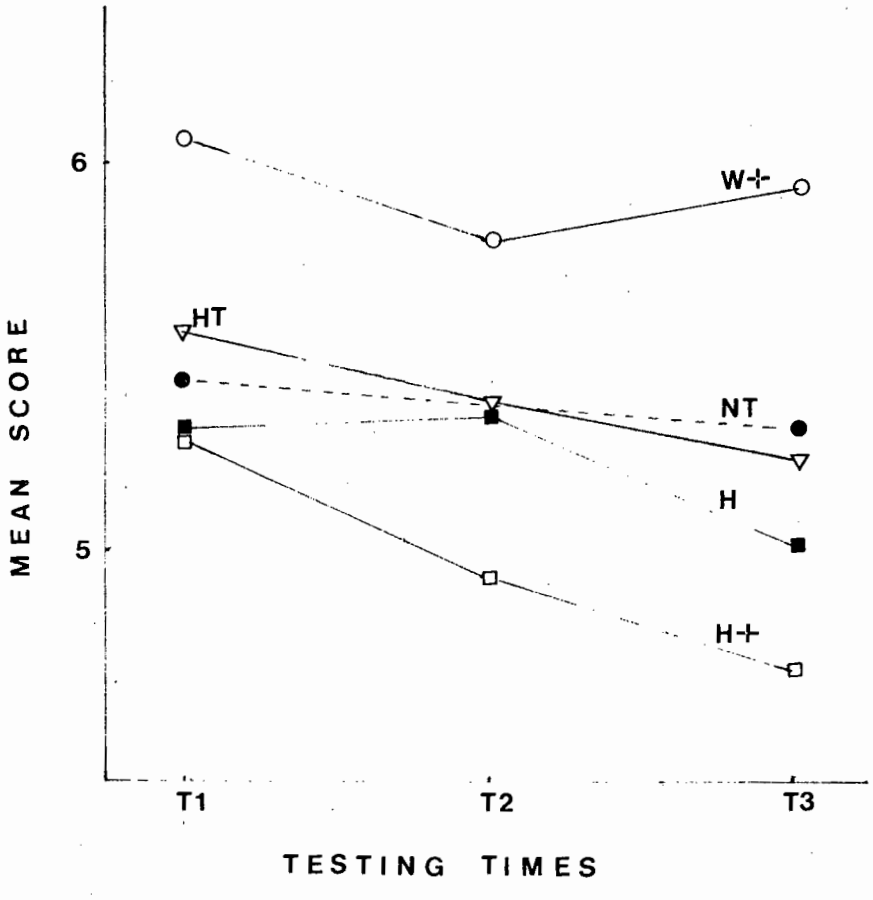


TABLE 36.

The CPQ Anxiety; Analysis of Variance.

Source	M.S.	D.F.	F. Ratio
Between Subjects			
A (Type of Enuretic; PE, SE)	4.48096	1	1.04331
B (Treatment Condition H+, W+, H)	9.47998	2	2.20724
AB	.761475	2	.177296
Error Term	4.29494	30	
Within Subjects			
C (Tests T1,T2,T3)	1.101661	2	1.48703
AC	.453369	2	.663483
BC	.290771	4	.425529
ABC	.182983	4	.267787
Error Term	.683317	60	

TABLE 37.

The CPQ Anxiety; Analysis of Variance.

Source	M.S.	D.F.	F. Ratio
Between Subjects			
A (Type of Enuretic; PE, SE)	20.5347	1	6.62858 *
B (Treatment Condition H+,W+,H,NT)	4.7806	3	1.54317
AB	3.93685	3	1.27081
Error Term	3.0979	40	
Within Subjects			
C (Tests T1, T3)	1.87061	1	3.38106 (.1)
AC	-.071289	1	.128853
BC	.291341	3	.526591
ABC	.101237	3	.182983
Error Term	.553259	40	

TABLE 39.

Child Scale A, Group Scores.

Key: M refers to mean, S refers to standard deviation, T1 and T2 refer to pretreatment and follow-up testing.

		PE: M	S	SE: M	S	PE+SE: M	S
H+	T1	9.33	5.24	14.83	10.32	12.08	8.19
	T2	7.17	4.26	11.5	6.77	9.34	6.97
W+	T1	12.0	4.69	14.17	6.71	13.09	5.79
	T2	9.17	4.71	14.33	9.63	11.75	7.58
H	T1	12.33	9.24	12.67	8.87	12.5	9.05
	T2	11.5	12.66	9.83	5.15	10.67	9.66
NT	T1	13.0	7.38	11.33	9.52	12.17	8.51
	T2	11.5	4.68	12.83	10.03	12.17	7.83

FIGURE 9

CHILD SCALE A

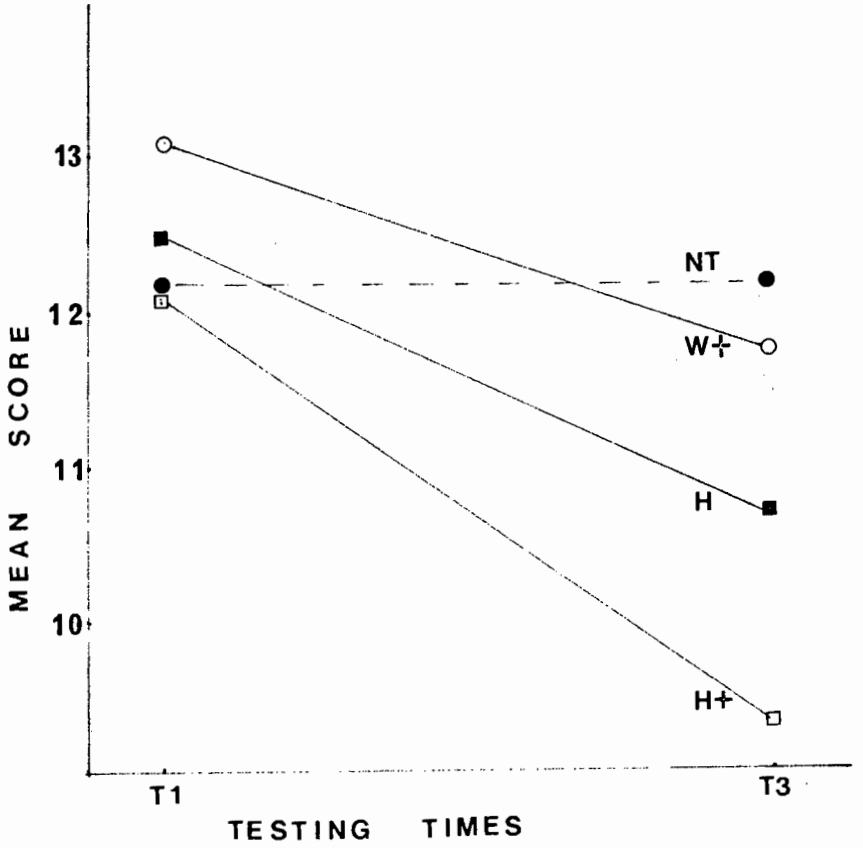


TABLE 40.

Child Scale A: Analysis of Variance.

Source	M.S.	D.F.	F. Ratio
Between Subjects			
A (Type of Enuretic; PE, SE)	125.348	1	1.213
B (Treatment Conditions H+,W+,H)	17.513	2	.169
AB	51.513	2	.498
Error Term	103.258	30	
Within Subjects			
C (Tests T1, T3)	70.0137	1	3.772 (.1)
AC	.013	1	.007
BC	3.097	2	.166
ABC	10.762	2	.579
Error Term	18.558	30	

TABLE 41.

Child Scale A: Analysis of Variance.

Source	M.S.	D.F.	F. Ratio
Between Subjects			
A (Type of Enuretic; PE, SE)	90.0937	1	.824861
B (Treatment Conditions H+,W+,H,NT)	13.8158	3	.126491
AB	46.1497	3	.422528
Error Term	109.223	40	
Within Subjects			
C (Tests T1, T3)	52.5098	1	3.37006 (.1)
AC	3.01172	1	.193291
BC	7.89974	3	.507003
ABC	10.6758	3	.685169
Error Term	15.5812	40	

TABLE 42.

Child Scale A: Simple Main Effects.

Source	M.S.	D.F.	F. Ratio
C at B1	45.21	1	2.901
C at B2	10.693	1	.686
C at B3	20.202	1	1.29
C at B4	0	1	0
Error Term	15.581	40	

Child Scale A. Interpretation of findings.

Table 39 refers to the mean and standard deviation scores of the various groups with regard to post treatment and follow-up testing on Child Scale A. Tables 40 and 41 refer to the analyses of variance of this data which respectively excluded and included the no treatment condition. Table 42 refers to tests for simple main effects performed to ascertain whether any of the treatment conditions had resulted in significant decreases with regard to the presence of behavioural abnormalities as measured on this parental questionnaire.

While significant results did not accrue with regard to this data, it is evident from Figure 9 that there had been an associated decrease with regard to all three forms of hypnotherapy (H+, W+ and H) and the overall

decrease with regard to the 36 treatment subjects (HT) falls just under the accepted significance level (Table 40, C effect, $p < .1$).

To sum up at this point, the hypothesis (1.2) that hypnotherapy (HT, N=36) would result in a significant decrease in maladjustment (1.2) was confirmed with regard to two of the four measures of maladjustment (neuroticism as measured by the Junior E.P.I. and CPQ respectively; (Table 26, C effect $p < .05$, and Table 32 C effect $p < .05$). Consideration of the Figures of the non significant data indicated that this hypothesis merits general consistant confirmation. See Figures 8 and 9 where HT or H+, W+ and H inclusively (N=36) was associated with clearly evident decreases at each testing occasion (T2 and T3).

However, the results were not so clear cut as to merit comparison with the no treatment condition (NT). Thus the hypothesis (1.4) that hypnotherapy would decrease maladjustment significantly more than no treatment was not confirmed.

Overall, it would appear that the general trend associated with all three forms of hypnotherapy was a decrease in neuroticism. This decrease was especially evident in those treatment conditions incorporating a hypnotic induction. In terms of the design model, it would appear that the H factor was primary as the control treatment condition H

was associated with a significant decrease on one of the four measures of maladjustment. However, it is not known to what extent the suggestions given for moral reasons, prior to the induction of hypnosis, influenced this result. This does not necessarily indicate that the tape recorded suggestions aimed at decreasing enuresis had not been effective; on the contrary, treatment condition H+ which incorporated these suggestions was the only individual treatment condition to show a significant decrease with regard to two measures of maladjustment (Table 29, C at B1, $p < .05$ and Table 31, C at B1, $p < .05$) and a completely consistent pattern on all figures. However, as results were not so significant as to merit comparison with the no treatment control condition, no direct causal relationship could be postulated.

4.3 The Primary/Secondary Enuretic Distinction.

4.3.1 Nocturnal enuresis and degree of maladjustment with special reference to the primary/secondary enuretic distinction.

The findings of previous researchers (Shaffer et al. 1968, Kolvin et al, 1972) indicating the psychiatric normality of the majority of enuretics was again evident in this study. On the one test, Child Scale A, that explicitly measures "psychiatric disturbance i.e. a score of 13 or more, 18 out of the 48 subjects, i.e. 38 per cent fell into this category on the pretreatment measure.

With regard to the twenty four secondary enuretic subjects (as defined in the present study) and the twenty four primary subjects, as measured twice (pre treatment and follow-up testing) on the four measures of maladjustment, a Pearson Product Moment Correlation Matrix showed that secondary enuretics were significantly more maladjusted ($p < .05$) on both testing occasions, than primary enuretics on the measures; neuroticism (.378, .324) and anxiety of the "CPQ". Positive but non significant correlations were shown on neuroticism as measured by the Junior E.P.I. (.165, .208) and presence of behavioural abnormalities as measured by Child Scale A (.106, .154). These results were confirmed by various analyses of variance which have already been presented (see Tables 33, 37, 29 and 40 respectively, A effect).

Further support for the hypothesis that secondary enuretics are more maladjusted than primary enuretics, was provided by significant Product-Moment Correlations on

various first order factors of the "CPQ". On both measures of Factor O, the factor most directly concerned with pervasive subjective distress, neurosis, anxiety and depression (Porter and Cattell, 1968) secondary enuretics were found to be more maladjusted (.315, .406).

On pretreatment testing, secondary enuretics were more emotionally unstable (Factor C, -.412) and internally restrained (Factor J, .294). On follow-up testing, secondary enuretics were more reserved and detached (Factor A, -.385), more shy and withdrawn (Factor H, -.314) and more careless of social rules (Factor Q3, -.412).

Taken collectively, these findings provided fairly consistent evidence that secondary enuretics (as defined in the present study) were more maladjusted than primary enuretics.

4.3.2 The Primary/Secondary Enuretic Distinction and Response to Hypnotherapy.

TABLE 43.

Enuresis Records in Z-Scores for 6 week intervals: Analysis of Variance.

Source	M.S.	D.F.	F.Ratio
Between Subjects			
A (Type of Enuretic; PE, SE)	5.966	1	.643
B (Treatment Conditions H+, W+, H)	11.323	2	1.22
AB	6.371	2	.686
Error Term	9.275	30	
Within Subjects			
C (Enuresis Records, Z-Scores, E,1-5)	1.078	4	1.624
AC	1.765	4	2.657 *
BC	.691	8	1.041
ABC	.336	8	.507
Error Term	.664	120	

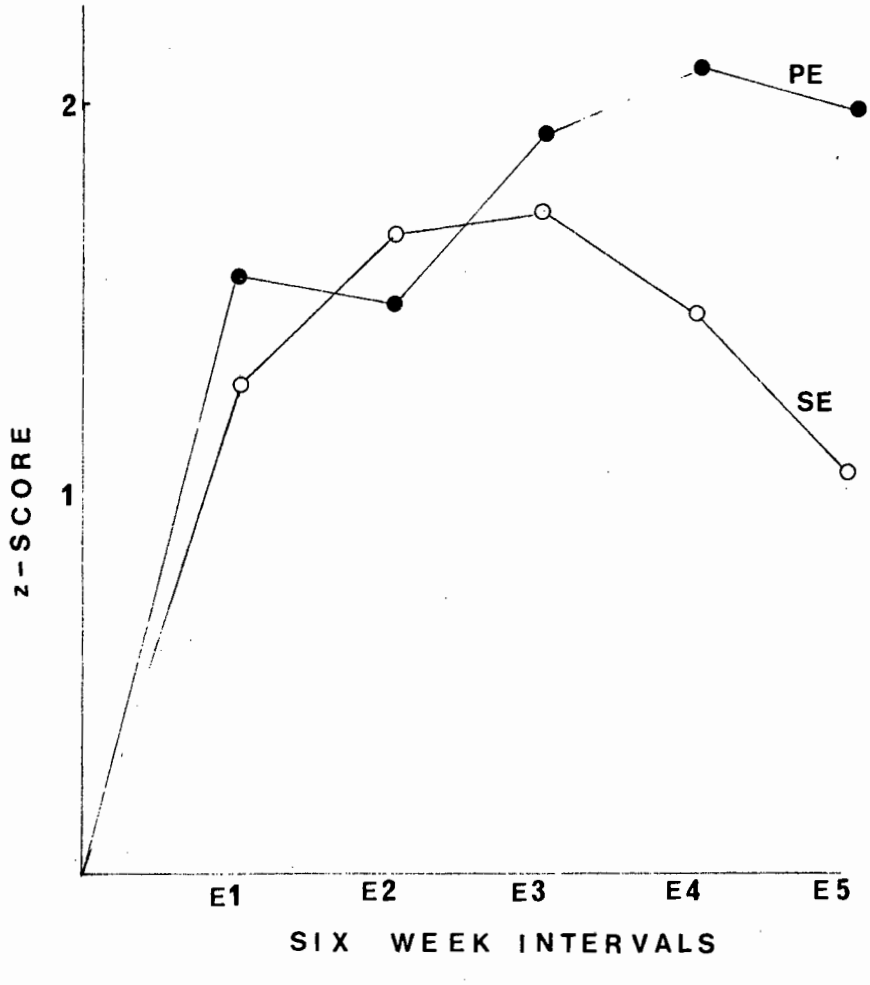
TABLE 44.

Enuresis Records in Z-Scores for 6 week intervals: Simple Main Effects.

Source	M.S.	D.F.	F.Ratio
A at C1 (E1)	.700	1	.293
A at C2 (E2)	.451	1	.189
A at C3 (E3)	.323	1	.135
A at C4 (E4)	3.731	1	1.563
A at C5 (E5)	7.821	1	3.277 (.1)
Error Term	2.386	150	
C at A1 (PE)	1.431	4	2.155 (.1)
C at A2 (SE)	1.412	4	2.126 (.1)
Error Term	.664	120	

FIGURE 10

PRIMARY AND SECONDARY ENURETIC RESPONCE TO TREATMENT



The Primary/Secondary Enuretic Distinction and response to hypnotherapy. Interpretation of findings.

In order to investigate the hypotheses (2.2 and 2.3) that secondary enuretics would respond significantly better to hypnotherapy yet relapse significantly more than primary enuretics, a three way analysis of variance with repeated measures on Factor C (Table 43) was run on the Z-score enuresis records in six week intervals of the thirty-six treatment subjects, 18 primary and 18 secondary. (Tables of means and standard deviations have already been presented in the 2 x 4 design form for the analysis of variance which included the subjects who had not received treatment, treatment condition NT. (See Table 12, p.104, and Table 13, p.107).

Table 44 refers to the analysis of simple main effects indicated by the significant AC interaction in the analysis of variance (Table 43). From Table 44 it was indicated that :-

1. The two enuretic groups had not differed significantly in initial response to treatment. (Table 44, A at C1,C2,C3,C4). Thus the hypothesis (2.2) that secondary enuretics would respond significantly better to hypnotherapy than primary enuretics could not be confirmed at this stage.
2. The differences between the groups falls just under the accepted significance level on the final Z-score measure, E5, (Table 44,A at C5, $p < .1$). Thus, as observed in Figure 10, there was a definite trend for secondary enuretics to relapse more than primary enuretics. As

observed in Figure 10, this was owing to both :-

(a) the overall improvement in the primary group;

(b) the relapse phenomenon within the secondary group.

However, both these observations again just fail to reach the accepted significance level (Table 44, C at A1, $p < .1$, C at A2, $p < .1$).

Owing to this consistant, although non significant pattern, for all practical clinical purposes, it would seem justifiable to conclude that secondary enuretics relapsed more than primary enuretics. That is, hypothesis 2.3 merits general confirmation.

The percentage improvement data used for the comparison with the results of Kolvin et al. (1972), (Table 18, p.115) was investigated in order to demonstrate possible differential response by the two types of enuretics in terms of "cure". This data was used because the stringent pre-treatment enuresis criterion used for the comparison, over-comes the problem of significant pretreatment differences between the groups (as was shown in Table 4, A effect, p 89). As the pretreatment enuresis criterion of three wet nights per week necessitates the exclusion of certain subjects, this raises the problem of small numbers. However, this can be overcome with the use of Fisher's exact probability test (c.f. Langley 1970, p.292 ff).

TABLE 45.

Number and Percentage of primary and secondary enuretics reaching cure or near cure levels (80 per cent or more improvement) at two months.

Type of Enuretic	Number	Percentage
Primary enuretics	3/15	20%
Secondary enuretics	7/10	70%

Table 45 refers to the number and percentage of primary and secondary enuretics reaching cure or near cure levels (80 per cent or more improvement) two months after the initial treatment session. As indicated in Table 45, the cure rate in the primary and secondary enuretic groups was 20 and 70 per cent respectively. With the use of Fisher's exact probability test which is not invalidated by the small numbers involved, it was indicated that secondary enuretics had responded significantly better to hypnotherapy than primary enuretics in terms of cure ($p < .05$), which confirmed hypothesis 2.2.

4.4 The Trance Paradigm vs the Alternative Paradigm, with respect to responsiveness to test suggestions as measured by "Diagnostic Ratings of Hypnotizability" or "D.R.H." (Orne and O'Connell, 1967), The Children's Hypnotic Susceptibility Scale or "C.H.S.S." (London, 1963) and the Barber Suggestibility Scale or "B.S.S." (Barber,1965).

TABLE 46.

Hypnosis Tests; Group Scores.

Key: Diagnostic Ratings of Hypnotizability (D.R.H.), The Children's Hypnotic Susceptibility Scale (C.H.S.S.) and the Barber Suggestibility Scale (B.S.S.), test re-test, (T1,T2). M refers to mean, S refers to standard deviation.

		PE:M	S	SE: M	S	PE+SE M	S
H+	D.R.H.	9.5	4.55	10	3.85	9.75	4.22
	C.H.S.S.	21.5	4.46	21.5	4.04	21.5	4.25
	B.S.S.(T1)	11.67	3.49	11.42	4.01	11.54	3.76
	B.S.S.(T2)	11.75	3.37	13	2.76	12.38	3.08
W+	D.R.H.	8	4.34	10.17	2.64	9.09	3.59
	C.H.S.S.	21.8	4.96	22.8	2.23	22.3	3.85
	B.S.S.(T1)	8	3.63	8.25	4.40	8.13	4.04
	B.S.S.(T2)	8.25	4.73	12.92	3.28	10.58	4.07
H	D.R.H.	11.67	1.86	8.33	4.84	10.0	3.66
	C.H.S.S	26.33	2.25	21	8.15	23.67	5.97
	B.S.S.(T1)	14.33	1.51	10	5.21	12.17	3.83
	B.S.S.(T2)	15.33	1.63	9.17	5.79	12.25	4.25

FIGURE 11

THE BARBER SUGGESTIBITY SCALE

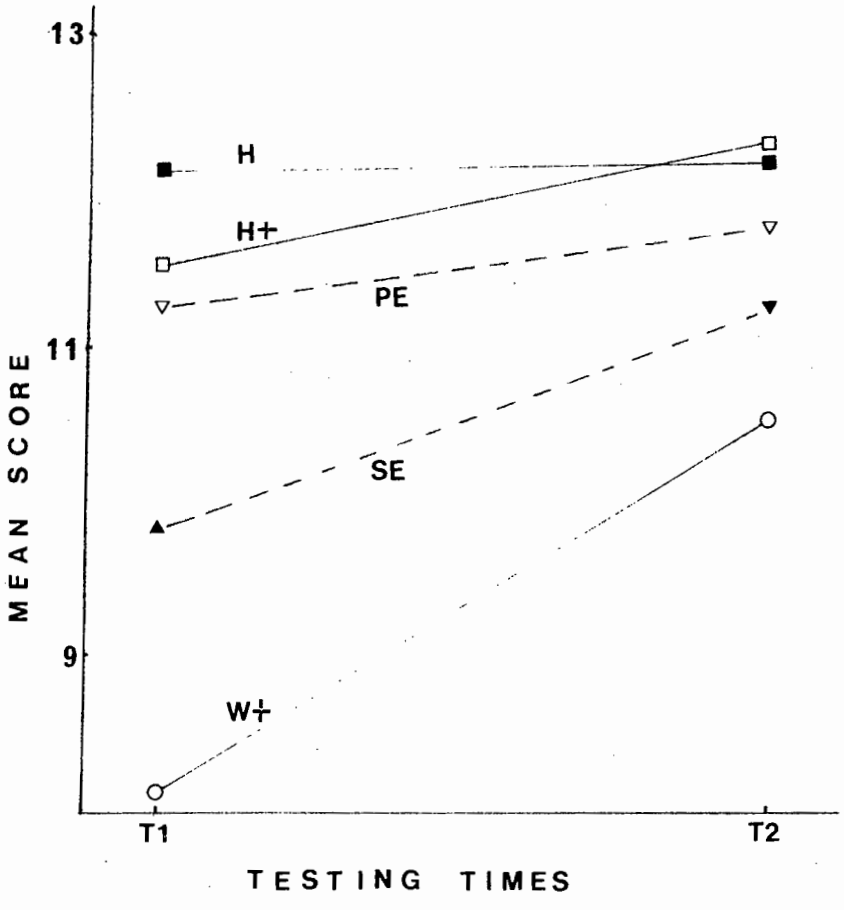


TABLE 47.

D.R.H.; Analysis of Variance.

Source	M.S.	D.F.	F. Ratio
A (Type of Enurecit, PE or SE)	.444	1	-.030
B (Treatment condition, H+, W+, H)	2.694	2	.183
AB	23.860	2	1.623
Error Term	14.7	30	

TABLE 48.

C.H.S.S.; Analysis of Variance.

Source	M.S.	D.F.	F. Ratio
A (Type of Enuretic, PE or SE)	18.782	1	.821
B (Treatment condition, H+, W+, H)	14.335	2	.626
AB	34.775	2	1.520
Error Term	22.866	30	

TABLE 49.

B.S.S.; Analysis of Variance.

Source	M.S.	D.F.	F. Ratio
Between Subjects			
A (Type of Enuretic, PE or SE)	10.503	1	.408
B (Treatment Condition H+,W+, H)	59.961	2	2.332
AB	96.315	2	3.746 *
Error Term	25.704	30	
Within Subjects			
C (Tests T1,T2)	22.781	1	5.660 *
AC	8.335	1	2.071
BC	8.843	2	2.197
ABC	14.670	2	3.645 *
Error Term	4.024	30	

TABLE 50.

B.S.S.; Simple Main Effects.

Source	M.S.	D.F.	F.Ratio
A at C1(B.S.S.;T1)	18.776	1	1.263
A at C2(B.S.S.;T2)	-.062	1	-.004
B at C1(B.S.S.;T1)	56.798	2	3.821 *
B at C2(B.S.S.;T2)	12.005	2	.807
Error Term	14.864	60	
C at A1 (PE)	1.778	1	.441
C at A2 (SE)	29.339	1	7.290 *
C at B1 (H+)	4.165	1	1.034
C at B2 (W+)	36.260	1	9.010 **
C at B3 (H)	-.041	1	-.010
C at A1, B1	-.020	1	-.005
C at A1, B2	.187	1	-.046
C at A1, B3	3	1	.745
C at A2, B1	7.520	1	1.868
C at A2, B2	65.334	1	16.235 **
C at A2, B3	2.083	1	.517
Error Term	4.024	30	

The Trance Paradigm vs the alternative paradigm with regard to hypnosis tests: Interpretation of findings.

Table 46 refers to the mean and standard deviation scores of the various groups with regard to the three hypnosis scales employed in this study, the "Diagnostic Ratings of Hypnotizability" (D.R.H.), The Children's Hypnotic Susceptibility Scale (C.H.S.S.) and the Barber Suggestibility Scale (B.S.S.).

Tables 47, 48 and 49 refer to the analysis of variance of this data. The non-significant B effect in each analysis indicated that with regard to responsiveness to test suggestions as measured by the D.R.H., C.H.S.S. and both measures of the B.S.S., there had been no significant difference between the treatment conditions, two of which (H+ and H), received a hypnotic induction prior to test suggestions, the third receiving task motivational instructions administered in the waking state (W+). This result clearly supported the alternative paradigm.

Further analysis indicated by the significant BC and ABC interactions in the B.S.S. analysis of variance (Table 49) complicated this issue. Table 50 refers to the analysis of simple main effects which indicated (See Figure 11) :-

1. While not differing with respect to suggestibility (Table 50, A at C1, A at C2), secondary enuretic subjects

increased significantly in suggestibility (Table 50, C at A2, $p < .05$) whereas primary subjects did not (Table 50, C at A1).

2. Subjects who were administered task motivational instructions in the waking state prior to hypnosis tests or suggestions aimed at decreasing enuresis and maladjustment (treatment condition W+) increased significantly in suggestibility (Table 50, C at B2, $p < .01$) whereas those subjects administered a hypnotic induction prior to tests or suggestions did not (treatment conditions H+ and H, Table 50, C at B1 and C at B3 respectively).
3. Both the above increases in the dependent variable were mainly associated with the significant increase in suggestibility of secondary enuretic subjects in the W+ treatment group (Table 50, C at A2, B2, $p < .01$).

The significant variance among the treatment conditions on the initial measure of the B.S.S. (Table 50, B at C1, $p < .05$), with inspection of Figure 11, seemed to indicate that subjects administered a task motivational instruction in the waking state (W+) had not responded as well to succeeding test suggestions in the initial treatment session, as those subjects administered a hypnotic induction prior to test suggestions (treatment conditions H+ and H).

However, Sheffe comparisons (Table 51) between the individual treatment conditions did not confirm this difference.

TABLE 51.

B.S.S. (T1) Sheffe comparisons between individual treatment conditions.

Treatment Conditions	Means Compared	Sheffe F Ratio
B3 vs B2 at C1(H vs W+ at T1)	12.167 vs 8.125	1.906 N.S.
B1,B3 vs B2 at C1 (H+, H vs W+ at T1)	11.854 vs 8.125	2.164 N.S.

Table 51 (B3 vs B2 at C1) indicated that there was no significant difference between the highest mean (treatment condition H) and lowest mean (treatment condition W+) on the initial measure of the B.S.S. (T1). See Figure 11. Use of the more sensitive Tukey H.S.D. Statistic for this pairwise comparison again did not indicate a significant difference. This statistic showed a non-significant ratio of 2.761 for the comparison between the means (given in Table 51) of treatment conditions H and W+.

In addition, as indicated in Table 51, (B1, B3 vs B2 at C1), those subjects to whom the tape recorded B.S.S. was administered following a hypnotic induction (treatment conditions H+ and H) had not differed significantly in responsiveness to test suggestions, from those subjects administered task motivational instructions in the waking state (W+).

In sum, the evidence in this section would seem to support the alternative paradigm as advocated by Barber (1965, 1970). With regard to the hypnosis scales, "Diagnostic Ratings of Hypnotizability", the Children's Hypnotic Susceptibility Scale and both measures of the Barber Suggestibility Scale, there was no significant difference on response to test suggestions between subjects administered a standard hypnotic induction procedure and those given task motivational instructions in the waking state prior to the test suggestions.

DISCUSSION OF RESULTS.

5.1 The Efficacy of Hypnotherapy.

The complete enuresis records obtained in the present study were initially converted into mean number of dry nights per week for (a) the pretreatment base-line period which ranged from 11 to 21 weeks; (b) the six week treatment period; (c) four consecutive 6 week intervals following the treatment period until follow-up.

Analysis of this data indicated that hypnotherapy (the total group of 36 enuretic boys receiving treatment HT, N=36) resulted in a significant improvement in dry nights over the treatment period. The improvement was significantly apparent in those individual forms of hypnotherapy (treatment conditions H+ and W+) which incorporated the tape recorded suggestions aimed at decreasing enuresis and maladjustment. The improvement was maintained for 6 months after treatment (Table 6, p.90, Figure 1, p.87).

Owing to pre-existing differences between the groups with regard to pretreatment base-line enuresis frequency and in order to assess more accurately the relative differences between the four treatment conditions (H+, W+, H and NT), the absolute enuresis data in dry nights was transformed into Z-scores using the pretreatment base-line measures to calculate means and standard deviations. These relative Z-score improvement ratios were established at both weekly

and six week intervals in order to assess more directly the efficacy of hypnotherapy both during and after treatment.

Analysis of the weekly ratios over the treatment period indicated that hypnotherapy (HT, N=36) was significantly more effective than no treatment (NT). When the three forms of hypnotherapy (treatment conditions H+, W+ and H) were compared individually with the no treatment condition (NT), both treatment conditions H+ and W+ were significantly more effective than no treatment whereas this was not the case with the control condition H.

These results, coupled with the findings that :-

(a) differences between the treatment conditions only became significant during the third week of treatment in which time the tape recorded suggestions aimed at decreasing enuresis were administered to treatment conditions H+ and W+, and

(b) as indicated previously (p.163), these treatment conditions had each been individually associated with a significant improvement in enuresis,

provide strong and consistant evidence that the efficacy of hypnotherapy was primarily due to two factors :-

(a) the tape recorded suggestions aimed at decreasing enuresis and maladjustment,

(b) <u>when preceeded</u> by certain necessary antecedent conditions, either a hypnotic induction or certain "task motivational instructions" administered in the waking state, aimed at

enhancing expectancies, attitudes and motivations and thinking with and vividly imagining the therapeutic suggestions.

Barber (1972) has argued that it is exactly such necessary antecedent conditions which constitute a hypnotic induction. This argument was supported with the result that the one form of hypnotherapy (treatment condition W+) which explicitly incorporated these necessary antecedent conditions was significantly more effective than no treatment over a six month follow-up period (with the Z-score ratios in 6 week intervals, Table 14 , p.107, Figure 5 , p. 106).

This does not deny the possibility of other factors contributing towards the significant therapeutic response; for example, training in increasing the "functional bladder capacity" (Yeates 1973; Zaleski et al., 1973, Starfield 1967) as intended and incorporated in the tape recorded suggestions. However, this does affirm that such factors were secondary. Further, the suggestions which were given, prior to the induction of hypnosis, for moral reasons to subjects in treatment condition H, served as an additional control in this respect. That is, the same suggestions (for example, bladder control exercises) when not preceeded by the appropriate antecedent conditions met with less success.

The pattern is not so distinct with regard to the decrease in maladjustment. However the hypothesis (1.2) that hypnotherapy (HT, N=36) would result in a significant decrease in maladjustment was confirmed with regard to two of

the four measures of maladjustment (neuroticism as measured by the Junior E.P.I. and CPQ respectively), and the decrease in behavioural abnormalities (Child Scale A) falls just short of the accepted significance level (Table 40, p.144 , C effect $p < .1$). Further ,clearly evident decreases, at the post treatment and follow-up testing phases, on both figures of the non-significant data, indicated that the hypothesis merits general consistent confirmation.

Similar results showing beneficial changes in adjustment after successful conditioning treatment have been reported by Behrle et al.(1956), Lovibond (1964) and Baker (1969).

The results in the present study were not so clear cut as to merit comparison with the no treatment condition. Thus the hypothesis (1.4) that hypnotherapy would decrease maladjustment significantly more than no treatment was not confirmed. No straightforward reason for the decrease in maladjustment could be postulated. However, it would appear to have been specifically associated with both the induction of hypnosis and the tape recorded suggestions aimed at decreasing maladjustment as treatment condition H+, (which incorporates both a hypnotic induction and succeeding suggestions) was the only treatment condition to show significant decreases on two measures of maladjustment and a completely consistent pattern on all figures.

As many researchers view enuresis as a discontinuous rather than quantitative variable the focus of

research has been on cure rather than improvement. As this would seem more pertinent to both patient and clinician, from a practical clinical point of view, the enuresis records were converted to suit different methods of calculating outcome in terms of cure. This also enabled direct comparisons to be made with other methods of treatment, for the purpose of generalizing the results of the study.

Three studies (Werry and Cohrssen, 1965; Kolvin et al., 1972 and De Leon and Mandell, 1966) each of which has a different method of calculating outcome, were selected for comparison purposes. The samples of enuretic children in these three studies would appear to be comparable to the present study in terms of age. The present study (ages 8 to 12) overlapped that of Kolvin et al., (1972), whose sample ranged from 8 to 10 years of age. On the other hand, De Leon and Mandell's (1966) study dealing with ages $5\frac{1}{2}$ to 14 overlapped this research. Werry and Cohrssen (1965) report a mean age of 9.99 years which approximates that of the present study (10.5 years). The children in the research of Kolvin et al. (1972) were volunteers, as in the case of the present study, and both De Leon and Mandell's (1966) and Werry and Cohrssen's (1965) studies deal with outpatients. Unfortunately De Leon and Mandell do not give further background information for discussion.

A common finding of enuresis being associated with the lower social classes (Barber et al., 1963; Miller, 1973; Shaffer, 1973) was again apparent in the study of Kolvin et al. (1972) and raises the question of how far the findings in the

present study, with its upward social class deviation, can be generalized. On the other hand, Werry and Cohrssen (1965) reported "a moderate over-representation of the middle and professional classes which is presumably a sign of greater concern about enuresis in these socio-economic groups, rather than increased prevalence". (Werry and Cohrssen 1965, p.139). This explanation probably applies to the upward social class deviation of the sample of enuretics in the present study as well, and makes the comparison with Werry and Cohrssen's (1965) study authentic in this regard, for generalizability of findings.

The present sample of enuretics was by no means all inclusive of the social strata in the Cape Peninsula. For example, the coloured population was not considered and the letter offering treatment was only distributed to the larger boys schools which presumably reflect an upper class bias. However, it is interesting to note that in the study of the population of the Isle of Wight, Rutter et al. (1973) found only a "weak and inconsistant" association between enuresis at age 9/10 and no associations at age 14 years. At 9/10 years enuresis was most common in children from unskilled or semi-skilled families, social classes IV and V, but it was commoner in children from professional/managerial families (I and II), than from their "non manual", class III group. In addition, the differences were only significant in girls (which were not included in the present study). Similar findings by Blomfield and Douglas (1956), Stein and Susser (1967) and Oppel et al. (1968), lead Rutter et al. (1973) to conclude that social

class is associated with enuresis only when the parental occupation differences are accompanied by differences in the frequency of stressful events or disruptive life experiences which have a clear association with later enuresis. (Douglas, 1973). Shaffer (1973) reaches a similar conclusion in his review. In overview, it would seem that the differences between the enuretic sample of Kolvin et al. (1972) and that of the present study, present no serious obstacles with regard to both the comparison between the two studies and the generalizability of the findings of the present study.

Werry and Cohrssen's (1965) sample of children would appear to have been more psychiatrically disturbed than the present sample. In their study, as in the present study, mothers completed a behavioural rating scale. 45 per cent of their sample was adjudged emotionally disturbed, as compared to the 38 per cent (Child Scale A), finding in the present study. While Werry and Cohrssen (1965) report that their sample was probably biased towards including an excess of emotionally disturbed children. "Even so, the sample is probably a great deal more representative of enuretic children in general than that to which the average child psychiatrist is exposed" (Werry and Cohrssen, 1965, p.425). This raises a possible question as to the validity of this comparison in view of the findings (Kolvin et al. 1972) that irrespective of treatment regime, more psychologically stable enuretic children respond better to treatment. However the differences involved (38 per cent vs 45 per cent) appear to have been small, and, on

the other hand, the sample in the present study would appear to have been more emotionally disturbed than the sample of Kolvin et al. (1972), in which 27 per cent were rated by psychiatrists as being "markedly abnormal psychiatrically".

All these studies which were selected for comparison purposes dealt with children of both sexes. This may be a confounding variable with regard to generalizability of findings of the present study, in view of research (Rutter et al. 1973) indicating a more marked behavioural disturbance in girls, and as mentioned in the previous paragraph, degree of maladjustment would appear to affect outcome. However comparison with the Isle of Wight study (Rutter et al., 1973) in which the same rating scale was used as in the present study (Child Scale A), indicates that the sample of enuretic boys in the present study were more psychiatrically disturbed (38 per cent) than either Isle of Wight enuretic boys or girls at ages 9/10 years (17.9 and 14.3 per cent respectively) and 14 years (13.8 and 25 per cent respectively). With regard to differential gender response to treatment, girls would seem to respond significantly better than boys to both buzzer (Kolvin et al. 1973) and drug treatment (Agarwala and Heycock, 1968; Lake, 1968). These findings would strengthen any demonstrable superiority of hypnotherapy over these methods of treatment.

To sum up, with regard to the background variables of age, social class, psychopathology and sex, it

would appear that there were no serious obstacles preventing the authenticity of the three comparisons with other research. In addition, concerning possibly the most important variable affecting outcome, enuresis frequency was controlled by excluding various subjects from the treatment group in the present study in order to suit the various pretreatment enuresis criteria used in each of the studies with which comparisons were made. As this resulted in smaller cells of unequal size (for the 2 x 4 analysis of variance design used in the present study) comparisons were only made with the total hypnotherapy group.

The results of the three comparisons and more specific interpretations of findings are presented in Tables 20 to 24 (pp 120ff). It was indicated that hypnotherapy was significantly more effective than the no treatment[1] (spontaneous remission) groups and brief psychotherapy groups (6 to 8 sessions and 12 sessions respectively) in the studies of Werry and Cohrssen (1965) and De Leon and Mandell (1966).

Although no significant results accrued in the comparison with the research of Kolvin et al. (1972) it was indicated that hypnotherapy was clearly more effective

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1 The no treatment group in the present study would appear to have been representative of general spontaneous remission. Both De Leon and Mandell (1966) and Werry and Cohrssen (1965) achieved spontaneous remission figures of 11.1 per cent in terms of their criterion of cure, and "cure" and "greatly improved" categories respectively. The comparable percentages of the no treatment condition in the present study as measured in terms of these categories are 16.7 and 8.3 per cent respectively.

than placebo, and while not having its initial effectiveness, hypnotherapy would appear to have been superior to imipramine in that no startling relapse occurred after treatment.

No adequate further comparisons were able to be made with psychopharmacological treatment. While the predominantly double-blind cross over nature of these studies provides a within subjects control for the psychopharmacological agent being studied, it prevents comparisons being made with either the placebo or the drug being studied. For example, it would have been desirable to compare the results of the present research with the research of Shaffer et al. (1968), who similarly used an analysis of variance technique. This was not possible owing to the alternating order of administering placebo or imipramine (high or low dosage) over successive four week periods in their initial three month trial. Comparison with their follow-up studies, where the efficacy of imipramine, buzzer and record keeping were compared, was not warranted as the subjects involved were already "treatment sophisticated", having been involved in the initial three month trial.

In general, in the three comparison studies, the buzzer would appear to have been more effective than hypnotherapy, which would appear to have resembled its supposed conditioning effect (Turner, 1973). However, significant differences in efficacy were only indicated in one of the three comparison studies, i.e. De Leon and Mandell's (1966)

study, where an 86.3 per cent cure was reported for the buzzer as opposed to the comparable 61.8 per cent cure in the case of hypnotherapy. This should not be viewed as any indictment against the efficacy of hypnotherapy, in view of the difference between the duration of the conditioning treatment (90 days/trials) in the study of De Leon and Mandell (1966), as opposed to the six sessions over six weeks in the present study, four of which sessions incorporated the tape recorded suggestions aimed at decreasing enuresis and maladjustment.

To conclude, the findings of this study have indicated that hypnotherapy is an effective short term therapeutic technique for the treatment of nocturnal enuresis. Comparisons with the results of other studies would seem to have indicated the desirability of hypnotherapy as an effective clinical alternative to the more established psychopharmacological and conditioning treatment.

5.2 The Primary/Secondary Enuretic Distinction.

In the present study, primary enuresis was defined as enuresis, persistant from birth, where the child had not obtained a dry period of one month in his individual history. The criterion for secondary enuresis was a period of continence of at least three months or at least three, one or two month dry periods.

Ten of the twenty-four secondary enuretic boys had a history of having obtained a dry period of one year or more, a commonly accepted criterion of secondary enuresis (de Jonge, 1973). Thus it may be argued that there was an overlap between the two types of enuretics in the present sample in terms of current definition, However, the essential difference between primary and secondary enuresis is surely that the latter "onset" type occurred after a period of continence. To quote MacKeith (1973) :-

> "The requisite length of the period of dryness is implied by the frequency of wetting selected for the definition of enuresis. If this was 'once a month' and the child has been dry for a month, then he does not have enuresis. It is therefore clear that after being dry for three months he starts bedwetting again his present enuresis is 'onset' enuresis. Yet elsewhere in this book, secondary enuresis is defined as enuresis starting after a period of dryness lasting a year".(Bladder Control and Enuresis; Kolvin, MacKeith and Meadow, eds., 1973, p.173).

Nocturnal Enuresis and degree of maladjustment with special reference to the primary/secondary enuretic distinction.

The findings of previous researchers (Shaffer et al. 1968; Kolvin et al. 1972; Rutter et al. 1973) indicating the psychiatric normality of the majority of enuretics was again evident in this study. On the one test, Child Scale A, that explicitly measures "psychiatric disturbance" i.e. a score of 13 or more, 18 out of 48 subjects i.e. 38 per cent, fell into this category on the pretreatment measure.

As this research did not include a non-enuretic control group, it is not directly ascertainable whether this percentage (38 per cent), differs from the general population of boys in the Cape Peninsula. However, comparison with the Isle of Wight study (Rutter et al. 1973),

(a) which used the same rating scale;

(b) in which the percentage of enuretic boys deviant at at 9/10 years and 14 years (27.4 and 27.6 per cent respectively) were significantly more "disturbed" than the percentages of boys dry at the corresponding ages (6.5 and 10.2 per cent respectively);

(c) and as the percentage of enuretics disturbed in the present sample, aged 8 to 12, was greater than the figures reported by Rutter et al (1973),

it would seem probable that the present sample contained more children rated as being "psychiatrically disturbed" than in the general population.

With regard to the primary/secondary enuretic distinction, secondary enuretics were found to be significantly more maladjusted on two of the four measures of maladjustment, neuroticism and anxiety as measured by the CPQ. While it should be pointed out that significant findings were thus only obtained on one of the three psychological tests used in the present study, it would appear that even an arbitrary minimum definition of secondary enuresis has some diagnostic value.

Caution is needed in any generalization of findings with regard to the attribution of personality characteristics, and especially so in the present sample with its small numbers.

As opposed to the somewhat contradictory evidence of Oppel et al. (1968) who found that :-

(a) their "never dry" or primary category of enuretic children were significantly more emotionally sensitive, less ambitious, more withdrawn and more likely to suppress their feelings than their permanently dry counterparts;

(b) their "relapsers" or secondary enuretic children were less anxious, less tense, more impulsive and had less fear of failure than their "non relapsers";

this research tends to support the findings of Kolvin and Taunch (1973). These researchers were able to show that secondary enuretics showed significantly more "behavioural deviance" in ratings of being more solitary, fearful, and

obsessive than primary enuretics. However, as in the present study, they were not able to obtain satisfactory statistical confirmation on all measures.

The Primary/Secondary Enuretic Distinction and response to Hypnotherapy.

It was hypothesized that secondary enuretics would respond significantly better to hypnotherapy yet relapse significantly more than primary enuretics after treatment.

These hypotheses were based on :-

(a) research indicating a psychogenic etiology for secondary enuresis (Hallgren, 1967; Paulett and Tuckman, 1958; Werry, 1967; Rutter et al. 1973);

(b) reports that secondary enuretics respond better than primary enuretics to treatment of a psychological nature (Shaffer et al., 1968; Novick, 1966) yet relapse more after treatment (Novick 1966).

Novick's (1966) study deserves special mention. He used an analysis of variance technique in which he compared groups of 22 "persistant" and 23 "acquired" enuretics[1], with regard to the number of wet nights in successive 10-day periods taken to reach a cure criterion of fourteen consecutive dry days, after symptomatic "routine supportive" and conditioning treatment. Novick reports that his acquired group of enuretics showed a more favourable response to routine supportive treatment alone, took fewer days to reach the cure criterion, wet less frequently prior

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1 Novick used a period of continence of 6 months for his definition of acquired enuretics.

to reaching the cure criterion and at follow-up after cure were wetting more frequently.

A direct comparison with this study in order to assess differential responsiveness of primary and secondary enuretics to conditioning treatment and hypnotherapy respectively was not possible owing to :-

(a) the fact that Novick followed up each child until the cure criterion was reached, i.e. somewhat more than 6 months in some cases, which was the length of the follow-up in the present study;

(b) significant pretreatment differences between the primary and secondary enuretics in the present study with regard to enuresis frequency. Novick reported no significant differences between his groups with regard to enuresis frequency degree of maladjustment and a variety of background variables. This is somewhat surprising in view of the significant results he obtained in response to treatment. With regard to pretreatment enuresis frequency he uses a base-line of only ten days however. The report contains no tabulated data with regard to background variables, so it is not possible to examine possible trends of his "acquired" enuretics being more maladjusted than the persistant group.

In order to investigate the hypothesis that secondary enuretics would respond significantly better to hypnotherapy yet relapse significantly more after treatment,

the Z-score improvement ratios in six week intervals were used; which overcomes the problem of pre-existing differences between the groups with regard to enuresis frequency.

While no significant findings accrued from the analysis of this data, the considerable differences between the primary and secondary enuretic groups at the six month follow up (the final 6 weekly Z-score measure), which falls just under the accepted 5 per cent level of significance, merits general confirmation that secondary enuretics relapsed more than primary enuretics (see Results, Section 4.42 for more specific interpretation).

The percentage improvement data used for the comparison with the results of Kolvin et al. (1972) was investigated in order to demonstrate possible differential response by the enuretic group in terms of "cure". This data was used because the stringent pretreatment enuresis criterion used for the comparison overcomes the problem of significant pretreatment differences between the groups. While this results in small numbers owing to the exclusion of certain subjects, this problem was overcome with the use of Fisher's exact probability test (Langley, 1968, p.292 ff). The percentage of secondary enuretics (70 per cent) achieving cure or near cure levels at two months was significantly greater than the percentage of primary enuretics (20 per cent).

To conclude, the findings of the present study support current theory and research emphasizing the

importance of a distinction between primary and secondary types of enuretics with regard to personality characteristics znd therapeutic responsiveness (Kolvin and Taunch, 1973; Novick, 1966; Shaffer et al. 1968; Kolvin et al. 1973). Further the use of a minimum arbitrary primary/secondary enuretic distinction as used in the present study would appear to have both diagnostic and prognostic value.

.3 The Trance Paradigm vs the Alternative Paradigm.

This research generally provided consistant support for the alternative paradigm in hypnosis research as advocated by Barber (1965, 1972). With regard to the hypnosis scales; "Diagnostic Ratings of Hypnotizability", the Children's Hypnotic Susceptibility Scale and on both measures of the Barber Suggestibility Scale, there was no significant difference on response to test suggestions between subjects administered a standard hypnotic induction and those given "task motivational instructions" in the waking state aimed at enhancing positive expectancies, attitudes and motivations.

Similarly, with one exception, Barber's alternative paradigm received support in the clinical application of his experimentation and theory. That is, with regard to changes in the dependent variables, enuresis and maladjustment, treatment condition W+ (task motivational instructions administered in the waking state aimed at enhancing expectancies etc., followed by the tape recorded suggestions) did not differ significantly from treatment condition H+ (a hypnotic induction followed by the tape recorded suggestions).

The exception referred to was the occasion when treatment conditions H+ and W+ differed significantly on the follow-up testing on neuroticism as measured by the Junior E.P.I. (Table 30, p 130, H+ vs W+ at T3, $p < .05$). It can be argued validly that the decrease in neuroticism which

seemed to be associated with a hypnotic induction is due to the suggestions of relaxation etc. that heighten expectancies, attitudes and motivations rather than being produced by a qualitatively different hypnotic state.

With its emphasis on scientific rigour of experimentation, and clear denotability of antecedent and dependent variables, the alternative paradigm in hypnosis research as advocated by Barber (1972) would seem a desirable framework for any future clinical outcome research in hypnosis.

6. CONCLUSION.

For a brief non-technical outline of the aims, methods and findings of the present study, the reader is referred to the summary (p. 4).

This research satisfied its main objective of providing a controlled clinical experimental study to assess the efficacy of hypnotherapy with nocturnal enuretics. Hypnotherapy was operationally defined in three forms :

(a) A hypnotic induction followed by suggestions aimed at decreasing both enuresis and maladjustment (treatment condition H+). These suggestions, which were standardized by means of a tape recorder, were compiled in keeping with current research and theory on enuresis (Kolvin, MacKeith and Meadow, 1973) and hypnotherapy (Hartland, 1971; Meyer and Tilker, 1969). They were specifically geared towards the reinforcement of positive behavioural changes (Meyer and Tilker, 1969) and additionally focussed on maladjustment owing to consistant evidence for an association between enuresis and emotional disorder (Shaffer, 1973).

(b) "Task motivational" instructions aimed at enhancing expectancies, attitudes and motivations given in the waking state followed by suggestions aimed at decreasing enuresis and maladjustment (treatment condition W+). This form of hypnotherapy constituted a direct application of

Barber's (1965, 1972) experimentation and theory in the clinical situation. In terms of the alternative paradigm in hypnosis research, hypnotic behaviour is not qualitatively different from hypnotic behaviour. Barber (1965) has been able to show that such "task motivational instructions" aimed at enhancing expectancies etc. administered in the waking state, had as significant an effectiveness on responsiveness to test suggestions as what is commonly known as a hypnotic induction, i.e. suggestions of eye heaviness, eye closure, relaxation, drowsiness, sleep and a unique state of deep trance.

(c) The induction of hypnosis without any suggestions following it (treatment condition H).

Hypnotherapy, as defined above, resulted in a significant improvement in enuresis as compared with :-

(a) pretreatment base-line enuresis frequency.

(b) no treatment (control condition NT).

The improvement in enuresis was significantly apparent over the treatment period and was maintained for six months after treatment. In addition hypnotherapy resulted in a significant decrease in maladjustment as measured on two of the three psychological tests (neuroticism as measured on both the Junior E.P.I. and CPQ).

Reasons for the significant improvement in enuresis was adduced. This would appear to have been owing to

the tape recorded suggestions aimed at decreasing enuresis and maladjustment, when preceeded by the appropriate antecedent conditions, the enhancement of positive expectancies, attitudes and motivations, coupled with thinking with and vividly imagining the suggestions. Further the one form of hypnotherapy, which explicitly incorporated these antecedent conditions (treatment condition W+) was significantly more effective than no treatment over the six month follow-up period.

Two subsidiary aims of the present study were to provide further research and clarification on the primary/secondary enuretic distinction (Kolvin and Taunch, 1973) and the issue of whether hypnosis is a special state or trance as advocated by the traditional trance paradigm or not (Barber, 1972).

While satisfactory statistical confirmation for the attribution of personality characteristics was not obtained on all measures of maladjustment, the present study indicated that secondary enuretics were more maladjusted than primary enuretics. Secondary enuretics responded significantly better to hypnotherapy in terms of "cure" yet relapsed more after treatment than primary enuretics. These findings should obviously be treated with caution owing to the small numbers involved. However, they tend to support current theory and research indicating that primary and secondary enuretics

differ with regard to personality characteristics and therapeutic responsiveness (Kolvin and Taunch, 1973; Kolvin et al. 1973; Shaffer et al. 1968; Novick, 1966).

Barber's (1965, 1970, 1972) alternative paradigm of hypnosis views hypnotic behaviour as not being fundamentally or qualitatively different from waking behaviour. The present study provided support for this paradigm in that there were no significant differences on responsiveness to test suggestions, as measured on three hypnosis scales, between subjects administered the traditional induction of a hypnotic state (eye closure, relaxation, etc.) and those administered task motivational instructions in the waking state aimed at enhancing, expectancies, attitudes and motivation.

With its emphasis on scientific rigour of experimentation, and clear denotability of antecedent and dependent variables, the alternative paradigm of hypnosis as advocated by Barber (1970) would seem a desirable framework for any future clinical outcome research in hypnosis.

In order to generalize the findings of the present study, comparisons were made with a number of other studies (Werry and Cohrssen, 1965; De Leon and Mandell, 1966; Kolvin et al. 1972) dealing with other methods of treatment and the calculation of outcome in terms of "cure". Hypnotherapy was found to be significantly more effective than brief psychotherapy. It would appear to have been superior

to imipramine, the most common psychopharmacological agent used (Blackwell and Currah, 1973), in that while not being as initially effective, there was no startling relapse phenomenon after treatment. In general, hypnotherapy would appear to have resembled the supposed conditioning effect (Turner, 1973) of the buzzer, although cure and improvement rates were not as high.

In view of this comparable efficacy with the more established psychopharmacological and conditioning methods of treatment, it was indicated that hypnotherapy would appear a desirable, short term alternative method of treatment for nocturnal enuresis.

APPENDIX A - Method Appendix.

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CORRESPONDENCE SHOULD BE ADDRESSED TO THE SECRETARY

PHONE 6-2692

Telephone: 6-2692.

CHILD GUIDANCE CLINIC
(UNIVERSITY OF CAPE TOWN)
CHAPEL ROAD (Bus Stop 28)
ROSEBANK

28th April, 1972.

TREATMENT FOR BEDWETTERS.

Dear Parent,

We have vacancies at the moment in a research programme, the aim of which is to treat enuretic boys (boys who wet their beds). If your son(s) is over the age of eight and wets his bed often enough to cause distress to both you and to him, and you would like treatment, please contact the Rosebank Child Guidance Clinic, as soon as possible as only a limited number of children can be treated.

Appointments should preferably be made by telephone. If this is impossible, correspondence should be addressed to:

The Secretary,
Rosebank Child Guidance Clinic,
Rosebank.

Yours sincerely,

H.I.J. van der Spuy

Dr. H.I.J. van der Spuy.
Director: Child Guidance Clinic.

UNIVERSITY OF CAPE TOWN - CHILD GUIDANCE CLINIC: INITIAL INTERVIEW.

Interview with: Date: Ref. by:

School report: Reason given child:

Name: Birth: Age: Problem:

Siblings:

Household and residence:

Nature, history of problem and method of handling:

Developmental history:

School career and status, work and behaviour:

Out of school interests and activities:

Child's interpersonal relationships (adults and children):

Parent's opinion of developmental level, and expectations:

Home discipline:

Routine (daily and weekly):

Summing up:

SOCIAL CLASS

Rate according to father's profession. If retired, rate according to what employment used to be. If widowed or divorced rate according to what father used to do.

CLASS 1: Traditional aristocracy, millionaires, cabinet ministers, chancellors and principals of Universities, managing directors or chairmen of boards of nation wide or international companies.

CLASS 11: Professionals, salaried executives, owners of large firms, operators of moderate sized enterprizes, students of universities and colleges, prosperous farmers and landowners.

CLASS 111: Small businessmen, small farmers, clerical workers, white-collar workers, semi-professionals.

CLASS 1V: Skilled workers, qualified tradesmen, apprecentices.

CLASS V: Semi-skilled workers.

CLASS V1: Unskilled workers, permanently unemployed, poor whites.

CORRESPONDENCE SHOULD BE ADDRESSED
TO THE SECRETARY

PHONE 6-2692

CHILD GUIDANCE CLINIC
(UNIVERSITY OF CAPE TOWN)

CHAPEL ROAD (Bus Stop 28)

ROSEBANK

8th September, 1972 19

Dear

Owing to the extremely large number (seventy-two) of boys involved in my enuresis treatment research, it is only possible for me to accommodate half this number in treatment until the end of this year. (Only eighteen boys can be seen per week and each treatment course lasts six weeks.) Purely by chance, as already confirmed by telephone, is one of the thirty-six boys to whom treatment can be offered, starting from the beginning of next year.

In order to keep in contact with both you and your son, it would be appreciated if you could let me have the record of the number of dry nights he has had since July 1st, 1972. A spare calendar is enclosed. Please transfer your old calendar marking on to the new one provided, continue recording on the old one and mail the new one to me at the Child Guidance Clinic as soon as possible.

Besides being essential for the research, this calendar marking is both helpful and therapeutic, in itself, for your son. If you have not been doing so already, it is suggested that you either keep the calendar together, or that your son has his own calendar as well. In order to follow your son's progress and to keep in contact with you, I will be sending you a new calendar every month or so.

In addition, I would suggest that in the meanwhile you reward your son strongly, if / whenever he is dry, especially by showing your happiness at his success, and check up with him on the all important routines of never drinking and always going to the toilet before he goes to bed.

Yours sincerely,

STEVE EDWARDS
Psychologist

APPENDIX B - Raw Data Tables.

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TABLE 52.

Enuresis Records : Mean Number Of Dry Nights Per Week.

Key : E0 refers to pre treatment base line enuresis frequency which ranged from 11 to 21 weeks.

E1-E5 refer to 6 week intervals after (and including) the initial treatment session.

	PE:	E0	E1	E2	E3	E4	E5	SE:	E0	E1	E2	E3	E4	E5
H+	S1	5.2	5.7	6.0	6.3	5.7	4.8		6.2	6.8	6.8	6.5	6.0	5.8
	S2	0.9	1.7	0.7	2.5	3.2	2.8		5.8	6.7	6.8	7.0	6.7	5.7
	S3	0.7	3.5	1.8	2.2	3.8	1.7		1.1	4.5	4.5	2.8	3.0	3.3
	S4	0	3.0	4.0	4.0	3.2	4.7		4.9	5.0	5.5	5.7	6.0	5.3
	S5	1.8	3.2	3.8	4.0	4.5	3.0		3.2	6.7	7.0	7.0	6.0	5.5
	S6	2.3	4.0	5.7	5.5	4.7	4.0		0	2.3	4.2	4.5	5.0	4.8
W+	S1	2.0	5.0	6.3	6.5	6.8	6.7		2.2	4.2	5.3	6.0	5.2	6.0
	S2	0.8	2.3	2.0	3.7	3.7	5.5		5.0	5.3	6.5	6.2	3.2	6.3
	S3	2.4	5.3	6.3	5.5	4.7	4.0		1.3	5.0	6.2	5.2	5.5	5.0
	S4	1.1	5.0	3.2	1.8	4.7	4.7		6.7	7.0	7.0	6.8	6.8	6.5
	S5	0	4.7	5.5	5.8	5.3	6.8		2.0	4.8	6.2	6.5	2.8	2.7
	S6	0	1.7	0.2	0	0	0		1.0	2.8	1.0	3.2	1.5	1.3
H	S1	5.4	4.5	5.0	7.0	5.8	6.2		3.6	6.7	7.0	7.0	7.0	6.8
	S2	1.3	3.0	1.3	4.2	5.3	6.3		6.2	6.2	7.0	7.0	7.0	7.0
	S3	0	0.5	0	1.5	3.2	0		6.5	6.8	7.0	7.0	7.0	7.0
	S4	1.3	2.3	2.7	2.7	3.2	2.5		2.9	5.8	6.2	6.8	7.0	3.0
	S5	4.5	7.0	7.0	6.8	6.7	6.8		5.2	5.5	5.8	5.8	6.7	6.3
	S6	0.9	1.7	1.2	1.5	1.0	2.0		6.7	6.8	6.8	7.0	6.8	6.8
NT	S1	0.9	3.7	2.8	2.3	3.8	3.0		1.5	1.7	1.5	1.7	2.0	1.7
	S2	4.9	4.5	4.5	5.0	3.8	6.0		4.8	4.2	2.5	4.0	2.7	3.0
	S3	1.7	2.7	2.3	2.7	0.5	1.8		1.5	1.2	1.0	1.2	0.8	2.5
	S4	0.5	0	1.5	0.5	0.8	0.7		6.5	5.3	5.3	5.7	5.5	5.8
	S5	0	0	0	0	0	0		0.9	1.7	4.7	3.3	3.2	5.5
	S6	0	0	0.7	0.2	1.0	0.2		1.6	1.5	2.2	2.7	3.7	4.0

TABLE 55.

The Junior E.P.I.

Key : Pre Treatment Post Treatment and Follow Up Testing (T1, T2, T3) on Neuroticism (N), Extraversion (E), Lie Scale (L).

	PE:	T1			T2			T3			SE	T1			T2			T3		
		N.	E.	L.	N.	E.	L.	N.	E.	L.		N.	E.	L.	N.	E.	L.	N.	E.	L.
H+	S1	8	15	3	9	17	2	7	15	3		12	16	6	16	19	3	4	21	1
	S2	6	19	7	4	20	5	2	19	6		18	16	3	15	15	2	10	19	1
	S3	13	21	1	11	22	1	4	20	2		13	15	8	10	16	4	10	17	8
	S4	10	18	3	5	16	10	0	20	8		10	18	7	9	18	11	10	14	10
	S5	16	21	1	18	20	2	16	21	3		16	15	5	9	13	5	9	10	6
	S6	8	17	7	11	14	5	4	18	10		10	10	4	2	10	11	0	9	4
W+	S1	12	13	2	9	12	1	10	13	2		15	10	3	19	12	4	10	17	2
	S2	7	19	5	12	14	3	12	15	3		12	16	9	17	16	8	22	15	6
	S3	17	18	2	20	20	2	19	15	0		4	18	3	6	22	5	3	19	6
	S4	11	22	5	10	15	5	8	10	6		13	14	4	15	11	6	16	10	4
	S5	19	17	4	17	12	5	20	18	6		20	18	1	10	21	2	22	18	6
	S6	10	20	4	9	17	2	10	17	3		17	18	3	17	14	3	18	19	5
H	S1	9	12	4	6	10	4	6	9	4		5	22	3	5	19	1	4	15	1
	S2	14	21	6	9	21	7	14	13	8		20	13	2	17	16	4	18	11	2
	S3	12	17	10	5	13	9	3	13	6		15	13	3	4	14	5	4	15	4
	S4	9	16	2	4	16	3	7	20	4		7	13	6	15	12	6	10	11	10
	S5	18	16	1	9	16	3	7	20	2		14	13	2	14	19	6	13	10	6
	S6	8	15	6	21	10	4	10	13	6		4	9	10	2	8	10	3	7	6
NT	S1	3	20	6				0	24	4		8	18	5				14	17	3
	S2	20	19	0				17	21	2		15	21	5				21	16	5
	S3	13	13	0				13	18	2		8	11	6				10	11	7
	S4	14	9	6				11	19	2		14	16	2				21	19	1
	S5	7	13	9				12	11	7		18	11	5				11	11	3
	S6	6	18	3				0	18	9		19	18	1				11	17	6

TABLE 54.

Enuresis Records, in Dry Nights : Z-Scores for six week intervals.

Key : E1-E5 refer to 6 week intervals after (and including) the initial treatment session.

	PE:	E1	E2	E3	E4	E5	SE:	E1	E2	E3	E4	E5
H+	S1	.44	.70	.96	.44	-.44		.66	.66	.32	-.24	-.46
	S2	.74	-.23	1.52	2.19	1.81		.85	.94	1.13	.85	-.06
	S3	2.34	.94	1.27	2.58	.86		2.10	2.10	1.06	1.18	1.37
	S4	3.00	4.00	4.00	3.17	4.67		.15	.69	.91	1.24	.47
	S5	1.07	1.51	1.66	2.03	.92		2.06	2.24	2.24	1.65	1.35
	S6	.92	1.83	1.72	1.29	.92		2.33	4.17	4.50	5.00	4.83
W+	S1	1.75	2.51	2.62	2.80	2.74		1.46	2.27	2.79	2.20	2.79
	S2	1.15	.93	2.22	2.22	3.59		.15	.76	.61	-.92	.66
	S3	3.06	4.13	3.28	2.42	1.68		3.56	4.73	3.76	4.05	3.56
	S4	3.22	1.74	.60	2.97	2.97		.52	.52	.19	.19	-.31
	S5	4.67	5.50	5.83	5.33	6.83		1.86	2.73	2.91	.62	.56
	S6	1.67	0.17	0	0	0		1.17	0	1.43	.32	.19
H	S1	-.90	-.39	1.66	.43	.84		1.24	1.36	1.36	1.36	1.28
	S2	1.73	.01	2.95	4.07	5.08		-.02	.62	.62	.62	.62
	S3	.50	0	1.50	3.20	0		.42	.73	.73	.73	.73
	S4	.75	1.03	1.03	1.39	.89		4.13	4.70	5.55	5.84	.13
	S5	1.24	1.24	1.14	1.10	1.14		.26	.49	.49	1.18	.88
	S6	.79	.28	.59	.08	1.09		.22	.22	.54	.22	.22
NT	S1	2.91	1.97	1.44	3.02	2.18		.37	.19	.37	.64	.37
	S2	-.18	-.18	.07	-.54	.59		-.53	-2.03	-.70	-1.85	-1.59
	S3	.63	.39	.63	-.71	.08		-.22	-.36	-.22	-.51	.71
	S4	-.74	1.48	0	.44	.30		-1.52	-1.52	-1.03	-1.27	-.91
	S5	0	0	0	0	0		.99	4.58	2.91	2.79	5.54
	S6	0	.67	.17	1.00	.17		-.11	.48	.91	1.75	2.00

TABLE 53.

Enuresis Records in Dry Nights; Z-scores for weekly intervals.

Key: M refers to mean, S refers to standard deviation; E,1-E6 refer to weekly intervals after and including the initial treatment session.

		PE:E1	E2	E3	E4	E5	E6	SE:E1	E2	E3	E4	E5	E6
H+	S1	-1.9	.7	.7	.7	.7	1.6	- .2	.9	.9	.9	.9	.9
	S2	- .9	.1	3	1.1	2	- .9	1.2	1.2	1.2	.2	.2	1.2
	S3	1.9	1.9	1.9	2.7	2.7	2.7	1.8	2.4	1.2	2.4	2.4	2.4
	S4	2	1	2	4	2	7		-2.1	.1	1.2	1.2	1.2
	S5	1.6	1.5	1.6	- .6	1.6	1.6	1.6	2.2	2.2	1.6	2.2	2.2
	S6	- .2	1.4	.4	.9	1.4	1.4	3	3	2	1	2	3
W+	S1	2.3	1.2	.6	1.2	2.3	2.9	1.3	1.3	2.8	1.3	- .1	2.1
	S2	1.7	3.2	1.7	- .6	1.7	- .6	.5	.5	-1	0	.5	.5
	S3	2.8	2.8	1.7	4.9	1.7	4.9	2.6	-1.3	3.6	5.5	5.5	5.5
	S4	4	3.2	3.2	4	1.6	3.2	.5	.5	.5	.5	.5	.5
	S5	5	3	6	5	6	3	0	1.9	.6	2.5	2.5	3.1
	S6	0	0	4	0	0	6	- .6	- .6	0	2.6	2.6	3.1
H	S1	.6	1.6	-1.4	-1.4	-4.5	- .4	1.4	1	1.4	1	1.4	1.4
	S2	.7	1.7	2.7	4.8	.7	- .3	- .2	.6	- .2	.6	-1.8	.6
	S3	0	0	1	1	1	0	.8	.8	.8	.8	.8	.8
	S4	1.9	1.2	.5	.5	- .2	.5	3	3	5.9	4.4	3	5.9
	S5	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.4	- .2	- .2	- .9	- .2
	S6	.1	.1	.1	1.1	2.1	1.1	.5	.5	-1.1	.5	.5	.5
NT	S1	1.2	1.2	4.3	3.2	4.3	3.2	2.2	- .4	- .4	- .4	-1.3	.4
	S2	.1	-1.5	.6	.1	.1	- .5	.2	1.1	.2	-1.6	- .7	-2.5
	S3	2	1.4	.2	.2	.2	- .4	- .4	- .4	- .4	- .4	- .4	- .4
	S4	- .7	- .7	- .7	- .7	- .7	- .7	- .6	-1.8	-4.3	.6	- .6	-1.8
	0	0	0	0	0	0	0	1.3	1.3	-1.1	.1	-1.1	4.9
	S6	0	0	0	0	0	0	1.2	.3	2	-1.3	-1.3	-1.3

TABLE 56.

The "CPQ" Pre Treatment.

Key : AII and NII refer to second order factors Anxiety and Neuroticism.
A,B,C,D,E,F,G,H,I,J,N,O.Q3,Q4, refer to first order factors.

	PE:	A	B	C	D	E	F	G	H	I	J	N	O	Q3	Q4	AII	NII	SE:	A	B	C	D	E	F	G	H	I	J	N	O	Q3	Q4	AII	NII
H+	S1	5	7	6	8	3	3	4	4	9	8	4	6	6	9	6.8	7.6		5	4	6	6	4	2	5	2	8	6	5	8	6	6	6.4	7.3
	S2	5	10	9	4	4	6	7	10	3	1	4	1	7	4	2.9	3.1		2	7	3	9	4	2	5	2	7	8	10	9	2	7	8.5	8.2
	S3	6	6	6	5	7	6	3	6	6	5	6	5	5	5	5.2	5.0		8	1	6	5	5	6	5	7	5	5	6	4	7	7	4.9	5.1
	S4	4	6	5	3	5	5	4	7	4	1	7	3	4	3	4.2	4.2		7	5	6	3	4	8	6	5	6	5	4	3	8	2	3.3	4.5
	S5	3	7	8	6	6	8	6	1	5	4	6	7	3	9	7.3	5.9		7	2	5	7	6	3	5	5	10	8	8	5	5	5	5.8	6.6
	S6	8	5	7	3	4	4	8	6	6	5	4	5	6	2	3.9	5.0		4	2	3	4	5	4	4	5	6	6	6	9	3	5	6.6	6.5
W+	S1	6	6	4	4	2	3	6	5	6	4	7	6	8	6	5.1	6.5		1	8	4	8	5	3	3	1	7	8	8	8	4	7	7.7	7.7
	S2	4	9	6	7	5	5	6	4	7	6	7	6	6	7	6.2	6.4		3	4	6	4	4	4	6	5	7	4	3	5	7	5	4.7	5.8
	S3	3	3	5	9	6	6	6	2	4	9	5	7	2	8	8.1	6.7		5	6	4	7	9	5	3	6	7	7	8	5	3	8	6.8	5.9
	S4	5	2	6	6	5	5	8	6	7	6	8	6	5	7	6.0	6.0		5	4	7	10	9	8	3	4	5	9	7	4	3	9	7.3	5.5
	S5	5	4	6	6	5	4	4	4	6	5	4	5	5	7	6.0	6.1		4	6	7	6	9	6	6	5	6	4	5	4	8	9	5.4	5.1
	S6	6	4	6	7	7	6	7	5	7	8	7	5	5	6	5.9	5.7		6	4	2	6	5	2	6	6	7	8	6	7	5	5	6.2	7.0
H	S1	5	9	6	5	5	6	3	5	3	6	5	7	1	8	7.1	5.7		7	9	7	6	8	6	2	8	5	6	9	4	5	6	5.1	4.5
	S2	9	6	8	4	3	5	9	7	7	2	4	3	10	3	2.9	4.6		5	10	4	9	1	5	6	2	7	4	6	7	6	6	7.2	7.4
	S3	6	3	9	4	4	2	5	4	9	4	4	5	10	3	3.5	5.8		3	9	6	7	6	5	6	7	9	3	5	4	6	5	5.1	5.4
	S4	5	10	7	5	6	8	8	6	6	4	5	4	8	5	4.3	4.5		7	2	5	5	4	3	4	5	8	7	4	5	5	2	4.8	6.0
	S5	3	10	6	7	7	6	3	5	4	5	8	5	2	9	7.1	5.5		5	1	6	6	4	4	3	4	6	5	7	6	4	7	6.4	6.4
	S6	2	3	2	7	5	4	8	4	6	10	5	7	4	6	7.0	7.2		5	4	4	3	1	4	10	4	9	9	8	7	5	5	5.6	7.3
NT	S1	10	8	7	1	5	5	8	10	7	1	3	3	9	1	1.9	3.5		4	7	4	5	2	3	7	6	8	6	6	6	7	5	5.2	6.7
	S2	6	5	6	8	8	8	4	6	4	6	7	3	6	7	5.6	4.6		5	9	3	7	2	1	6	3	8	9	5	8	7	8	7.0	8.5
	S3	5	6	6	7	7	8	6	9	3	4	8	5	7	4	4.7	3.9		7	3	5	7	3	7	6	5	6	4	7	9	4	7	7.2	6.5
	S4	5	3	5	6	5	2	6	5	6	8	5	7	5	6	6.2	6.7		4	7	3	7	8	6	6	5	3	7	6	7	4	7	7.0	5.8
	S5	5	2	5	6	5	4	6	6	9	6	6	6	6	5	5.5	6.3		6	6	6	9	7	5	1	4	5	7	7	6	4	7	7.0	6.1
	S6	8	6	8	4	7	4	4	9	5	3	5	4	6	3	3.7	3.9		5	3	5	7	4	6	3	5	5	7	5	8	5	7	6.8	6.4

TABLE 57.

The "CPQ" Post Treatment.

Key : AII and NII refer to second order factors Anxiety and Neuroticism.
A,B,C,D,E,F,G,H,I,J,N,O,Q3,Q4, refer to first order factors.

	PE:	A	B	C	D	E	F	G	H	I	J	N	O	Q3	Q4	AII	NII	SE:	A	B	C	D	E	F	G	H	I	J	N	O	Q3	Q4	AII	NII
I+	S1	3	8	5	7	2	3	7	6	8	8	6	5	6	7	5.9	7.0		6	6	5	4	5	3	6	4	8	5	6	5	5	6	5.5	6.3
	S2	6	7	9	4	5	8	5	10	3	1	6	1	5	4	3.3	2.7		4	6	6	8	6	3	5	1	4	6	9	6	5	5	6.5	6.3
	S3	8	5	6	4	7	4	3	8	6	5	3	6	7	4	4.4	4.9		3	2	5	10	4	3	6	7	6	6	7	5	5	9	7.2	6.7
	S4	3	4	5	3	6	6	6	8	4	2	7	2	5	4	3.9	3.9		8	4	8	4	6	4	9	9	5	4	5	3	8	4	3.3	4.1
	S5	6	8	5	10	9	7	6	3	6	3	6	7	3	8	8.0	6.0		3	2	5	6	5	8	3	5	6	6	6	9	4	5	6.6	5.9
	S6	6	6	6	3	5	6	7	6	4	5	6	4	5	3	4.2	4.5		6	4	7	4	6	6	8	9	8	4	4	3	8	1	2.8	3.9
N+	S1	6	6	7	4	4	6	5	5	5	3	5	4	7	6	4.6	5.0		3	9	5	9	5	5	3	1	7	8	8	6	2	7	7.8	7.2
	S2	3	9	6	8	5	6	7	4	8	6	7	6	6	8	6.2	6.6		5	5	6	3	2	6	7	5	6	6	5	6	6	3	4.5	5.6
	S3	3	3	1	7	5	5	2	4	9	9	6	8	5	5	6.9	7.5		5	5	5	5	5	8	5	7	7	7	8	6	3	3	5.4	5.1
	S4	4	3	3	7	5	4	1	6	7	4	8	8	4	7	7.1	6.7		4	6	5	4	5	7	4	5	7	7	5	5	5	5	5.2	5.6
	S5	3	5	6	7	5	3	3	4	10	6	7	5	4	8	6.6	7.0		3	5	5	5	8	10	5	6	5	4	8	6	4	6	5.9	4.5
	S6	6	4	8	9	6	7	7	5	6	7	8	4	5	7	6.1	5.4		4	4	5	5	8	6	5	3	7	9	6	7	5	7	6.4	6.3
H	S1	6	7	4	6	3	4	3	5	3	7	7	5	3	8	6.7	6.4		6	8	7	4	7	8	1	7	4	6	7	5	2	8	6.0	4.6
	S2	5	6	5	4	4	5	6	6	4	1	5	6	6	5	5.1	5.2		3	10	3	9	4	5	5	5	8	4	5	9	4	5	7.4	7.0
	S3	5	4	7	3	7	3	5	7	7	7	4	5	7	4	4.0	5.1		4	8	9	5	5	5	7	6	9	1	4	4	8	4	3.9	4.8
	S4	6	9	7	3	5	6	8	6	5	4	5	2	7	3	3.3	4.1		3	2	6	8	7	3	5	7	9	7	6	8	5	5	6.3	6.4
	S5	5	10	5	6	5	6	4	5	4	5	8	3	5	7	5.6	5.3		5	4	4	7	5	6	2	3	4	6	7	6	3	7	6.8	6.2
	S6	5	3	3	6	5	5	5	5	5	8	8	9	4	7	7.2	6.8		4	4	5	3	4	4	7	8	9	7	6	6	7	4	4.5	5.9

TABLE 58.
The "CPQ" Follow-Up

Key : AII and NII refer to second order factors Anxiety and Neuroticism.
A,B,C,D,E,F,G,H,I,J,N,O,Q3,Q4, refer to first order factors.

	PE:	A	B	C	D	E	F	G	H	I	J	N	O	Q3	Q4	AII	NII	SE:	A	B	C	D	E	F	G	H	I	J	N	O	Q3	Q4	AII	NII
H+	S1	3	8	6	7	6	3	5	3	7	8	5	4	7	9	5.9	6.8		6	7	8	7	7	3	6	5	9	4	6	6	4	4	5.7	5.7
	S2	5	8	9	3	6	6	6	8	5	1	5	1	6	4	3.1	3.3		5	7	3	7	6	3	5	6	3	4	9	6	6	5	5.9	5.7
	S3	9	5	3	5	7	7	3	6	3	4	5	4	7	5	4.9	4.7		5	3	6	5	4	4	4	5	7	6	6	5	4	5	5.5	6.0
	S4	3	6	6	5	7	6	3	9	2	3	7	5	6	5	4.7	3.9		6	5	7	3	5	4	7	7	5	4	6	4	6	4	4.0	4.6
	S5	5	5	6	7	5	6	5	3	6	3	4	5	5	4	5.7	5.5		3	3	6	6	7	6	5	6	5	6	8	6	5	6	5.8	5.3
	S6	10	5	6	4	7	4	8	9	6	3	3	4	8	1	3.1	4.0		3	4	7	4	5	4	9	7	9	4	5	5	6	4	4.4	5.4
W+	S1	9	8	7	4	7	6	6	7	5	4	7	4	5	5	4.6	4.3		4	9	4	6	7	6	5	3	7	6	9	4	3	7	6.5	6.0
	S2	7	7	6	7	5	4	5	4	7	7	5	5	6	6	5.8	6.3		6	8	8	6	6	6	5	4	7	6	8	6	7	4	5.0	5.4
	S3	1	5	3	10	7	6	4	3	5	8	7	7	4	9	8.2	7.0		5	4	5	7	8	6	6	5	5	6	7	5	3	7	6.6	5.5
	S4	6	3	5	5	6	4	3	7	8	7	7	7	5	6	5.8	6.2		5	7	3	10	7	7	2	4	6	5	9	5	4	9	7.7	6.4
	S5	6	5	7	6	5	5	2	4	6	5	4	4	5	3	4.9	5.2		4	6	6	6	5	5	3	5	5	8	6	7	5	6	6.1	6.0
	S6	6	4	8	9	6	7	7	5	6	7	8	4	5	7	6.1	5.4		4	5	2	6	5	5	2	4	7	5	7	5	3	5	6.4	6.4
H	S1	8	7	6	6	4	5	3	6	4	5	7	3	1	8	6.4	5.4		7	7	6	5	7	8	1	6	2	5	10	3	4	6	5.2	4.1
	S2	5	6	6	2	2	3	8	6	7	2	6	6	7	3	4.0	5.6		3	10	3	8	4	5	6	2	10	6	6	7	3	6	7.5	7.6
	S3	5	5	6	3	6	4	5	8	4	6	6	4	8	4	3.6	4.5		4	8	8	3	6	5	8	8	8	2	4	4	7	4	3.0	4.4
	S4	6	10	7	7	6	8	6	6	4	3	5	3	8	5	4.5	4.2		6	3	4	4	4	5	5	7	8	5	7	6	5	4	5.1	5.8
	S5	5	9	5	6	6	7	3	7	5	6	8	5	4	5	5.6	5.0		5	4	4	7	5	6	2	3	4	6	7	6	3	7	7.2	6.2
	S6	8	5	5	4	3	5	4	6	7	7	7	4	5	7	5.3	6.1		4	4	3	3	5	4	6	7	10	9	6	5	3	5	5.4	6.4
NT	S1	10	7	10	2	7	6	7	10	6	1	4	2	8	4	2.4	2.9		6	7	5	6	5	7	4	6	7	9	3	5	5	7	5.9	6.0
	S2	6	6	7	8	7	5	6	7	8	6	7	5	4	8	6.4	5.8		4	9	6	7	5	5	5	7	7	8	7	8	5	8	6.7	6.5
	S3	8	9	7	6	10	5	3	8	3	8	7	4	4	7	5.5	4.4		5	2	8	5	4	4	5	4	7	4	7	5	5	7	5.6	6.0
	S4	5	2	4	7	1	6	3	4	5	9	7	6	5	6	6.4	6.8		4	7	3	7	9	8	1	3	3	10	9	7	2	9	8.0	6.1
	S5	5	3	3	3	1	2	6	6	8	4	3	6	8	4	4.5	6.7		6	8	6	7	6	6	4	6	5	4	7	5	3	8	6.6	5.4
	S6	10	5	9	2	6	8	8	10	1	4	4	1	8	1	1.7	2.0		5	1	6	7	7	5	4	2	6	7	7	7	4	6	6.8	6.3

TABLE 59.

CHILD SCALE A

Key : Pre Treatment and Follow Up Testing T1, T3.

	PE:	T1	T3	SE:	T1	T3
H+	S1	19	15		7	9
	S2	5	6		8	15
	S3	5	7		27	19
	S4	7	2		11	10
	S5	10	7		29	16
	S6	10	6		7	0
W+	S1	16	3		6	6
	S2	5	4		11	20
	S3	8	14		8	3
	S4	14	13		18	9
	S5	17	9		20	27
	S6	12	12		22	21
H	S1	7	6		13	8
	S2	2	1		5	8
	S3	7	4		5	3
	S4	26	34		29	16
	S5	11	5		10	16
	S6	21	19		14	8
NT	S1	14	13		15	18
	S2	10	14		9	12
	S3	24	14		11	13
	S4	17	13		3	3
	S5	2	2		2	2
	S6	11	13		28	29

TABLE 60.

HYPNOSIS TESTS.

Key : The Barber Suggestibility Scale (BSS) Test, Retest (T1, T2), The Childrens Hypnotic Suggestibility Scale (CHSS) and Diagnostic Ratings of Hypnotizability (DRH).

	PE:	BSS(T1)	BSS(T2)	CHSS	DRH	SE: BSS(T1)	BSS(T2)	CHSS	DRH
H+	S1	13	13	24	11	14	14	26	14
	S2	16	16	25	14	14	14	24	12
	S3	7.5	7.5	22	4	14	16	19	10
	S4	14	14	26	14	6.5	8	16	4
	S5	7.5	8	16	4	6	12	19	7
	S6	12	12	16	10	14	14	25	13
W+	S1	14	13	28	14	8	11.5	22	12
	S2	4	3	17	4	0.5	7.5	24	6
	S3	8	14	24	13	10	16	26	13
	S4	5	4	15	6	9	16	20	12
	S5	10	5.5	22	5	8	14.5	21	9
	S6	7	10	25	6	14	12	24	9
H	S1	14	16	27	12	0	3	9	3
	S2	16	16	24	12	12.5	16	30	14
	S3	14	16	26	10	15	16	29	14
	S4	16	16	27	13	12	10	24	9
	S5	14	16	30	14	10	5.5	16	4
	S6	12	12	24	9	10.5	4.5	18	6

TABLE 61.

Subjects Ages In Months As Of Initial Treatment Session

	PE:	Age	SE:	Age
H+	S1	156		141
	S2	133		138
	S3	132		128
	S4	125		112
	S5	122		101
	S6	120		109
W+	S1	159		156
	S2	141		140
	S3	133		126
	S4	114		123
	S5	106		113
	S6	98		111
H	S1	147		157
	S2	140		146
	S3	133		139
	S4	119		132
	S5	109		116
	S6	98		108
NT	S1	151		148
	S2	138		145
	S3	131		120
	S4	119		118
	S5	109		117
	S6	98		111

TABLE 62.

Social Class

		PE: SOCIAL CLASS	SE: SOCIAL CLASS
H+	S1	3	3
	S2	2	3
	S3	3	3
	S4	3	3
	S5	3	3
	S6	3	3
W+	S1	3	3
	S2	3	2
	S3	3	3
	S4	3	4
	S5	3	2
	S6	3	3
H	S1	2	3
	S2	3	2
	S3	3	2
	S4	3	4
	S5	2	3
	S6	3	2
MT	S1	2	2
	S2	2	2
	S3	3	3
	S4	3	2
	S5	2	3
	S6	2	3

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APPENDIX C - Test Forms.

Index.

CPQ, Form A
(1963 Edition)

Part A

What You Do and What You Think

Print Your Name: First_____ Last_____

Your Age_____ Grade in School_____ Boy or Girl_____

Read each statement and mark an ☒ on the side that fits you better. Some questions will not have the words just the way you want them but mark every one the best you can. You may ask for help if you don't know a word. Just raise your hand and the teacher will come to your desk. Do not work long on one question. Mark it and go right on to the next one. MARK EVERY ONE. Most of the questions have two boxes to choose from but other questions have three boxes. Always look at ALL the boxes and pick just one of them for your answer.

1. When visiting a new building do you like to have someone show you around ☐ or ☐ do you like to find your own way
2. When a child laughs at you do you feel badly ☐ or ☐ do you laugh too
3. Do you think you could do well at almost anything ☐ or ☐ just a few things
4. In a game on the playground, do you stand around ☐ or ☐ run a lot
5. Does your mother think you are too lively and restless ☐ or ☐ quiet and calm
6. Do you feel nervous at school ☐ or ☐ are you happy
7. Do you work slowly ☐ or ☐ quickly
8. In your group is someone else the leader ☐ or ☐ are you the leader
9. Do you have many friends ☐ or ☐ just a few good friends
10. Do you think you smile a great deal ☐ or ☐ do not smile much

GO RIGHT ON TO THE NEXT PAGE.

DO NOT WRITE BELOW THIS LINE.

FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q_3	Q_4
Part A_1 Raw Score														
Part A_2 Raw Score														
Form A Raw Score = $(A_1 + A_2)$														
Standard Score														
10	•	•	•	•	•	•	•	•	•	•	•	•	•	•
9	•	•	•	•	•	•	•	•	•	•	•	•	•	•
8	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PROFILE 7	•	•	•	•	•	•	•	•	•	•	•	•	•	•
IN 6	•	•	•	•	•	•	•	•	•	•	•	•	•	•
5	•	•	•	•	•	•	•	•	•	•	•	•	•	•
STENS 4	•	•	•	•	•	•	•	•	•	•	•	•	•	•
3	•	•	•	•	•	•	•	•	•	•	•	•	•	•
2	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1	•	•	•	•	•	•	•	•	•	•	•	•	•	•
FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q_3	Q_4

 CPQ-Atb-7AA

In every question, mark just one box.

11. Usually means the same as generally ☐ or seldom ☐ or always ☐

12. Do you sometimes speak angrily to your parents ☐ or ☐ is it wrong to do so

13. Does your teacher think you are good at sitting still ☐ or ☐ that you run around too much

14. When your friends argue, do you join the argument ☐ or ☐ keep quiet till they finish

15. Foot is to leg as hand is to wrist ☐ or finger ☐ or arm ☐

16. When someone is slow does it bother you ☐ or ☐ does it not bother you

17. Would you rather hunt birds ☐ or ☐ draw pictures of birds

18. Do you go to buy your own toys ☐ or ☐ does mother do it

19. The next number in 7, 5, 3, __,is 9 ☐ or 1 ☐ or 0 ☐

20. In your family are you the happy one ☐ or ☐ the one in trouble

21. Would you rather talk with your teacher ☐ or ☐ talk with a good friend

22. If two children were fighting on the playground, would you let them fight ☐ or ☐ go and tell the teacher

23. Which one of these does not belong with the others: cold, hot, wet, warm warm ☐ or cold ☐ or wet ☐

24. If people push you in a bus, do you just smile ☐ or ☐ do you get mad

25. Would you like better to have bears here now ☐ or ☐ to hear stories about bears

26. Would you rather work with books in a library ☐ or ☐ be a General in the Army

27. If Mary's uncle is my father, what relation is Mary's sister to me cousin ☐ or niece ☐ or auntie ☐

28. Do they say you shout at people when you get excited ☐ or ☐ do they think you are patient

29. Is mother's way of doing things always better ☐ or ☐ is your own new way sometimes better

30. Would you rather be a tap dancer ☐ or ☐ a soldier

GO RIGHT ON TO THE NEXT PAGE.

In every question, mark just one box.

31.	Would you rather go to the movies	☐	or	☐ to a church
32.	Are you doing as well as you should in your work	☐	or	☐ could you do better
33.	Which story would you like better, one about killing Indians	☐	or	☐ how Indians made clothing
34.	Do loud noises scare you	☐	or	☐ do you just laugh at them
35.	Do you obey the rules all the time	☐	or	☐ only when someone is looking
36.	Are your feelings easily hurt	☐	or	☐ not easily hurt
37.	Would you rather collect stamps	☐	or	☐ play football
38.	If people wanted you to do something you did not want to do, would you get angry	☐	or	☐ just go along
39.	If you begin a job and it becomes hard, do you give up	☐	or	☐ keep on working
40.	Do new teachers frighten you	☐	or	☐ do you usually like them
41.	Would you rather ride a bicycle	☐	or	☐ listen to music
42.	Do teachers scold you	☐	or	☐ think you are all right
43.	When mother calls, do you wait a while	☐	or	☐ do you come right away
44.	Are most children kind to you	☐	or	☐ are they sometimes unkind
45.	Would you rather read a book	☐	or	☐ play ball
46.	If someone has a new idea, do you say it is good	☐	or	☐ wait a while to make sure
47.	If you know the answer, do you raise your hand	☐	or	☐ wait to be called on
48.	Are your parents always ready to hear you talk	☐	or	☐ are they sometimes too busy
49.	In a play would you rather be a speed pilot	☐	or	☐ a famous writer
50.	If a trick is played on you, do you laugh	☐	or	☐ get a little angry

GO RIGHT ON TO THE LAST PAGE.

Do not write here.
G____ H____ I____ J____

In every question, mark just one box.

51.	Would you like to go fishing by yourself	☐	or	☐ play games with children
52.	When you say, "I bet I'm right," are you, in the end, right most of the time	☐	or	☐ wrong most of the time
53.	School life is hard	☐	or	☐ easy
54.	In your school work do you often forget	☐	or	☐ do you feel sure you can remembe things
55.	If you were a wild animal, would you rather be a lion	☐	or	☐ a fast horse
56.	Can you do most things well	☐	or	☐ can others do things better
57.	Would you rather go to school	☐	or	☐ work at home
58.	In dreams do animals chase you	☐	or	☐ are dreams nice
59.	Are grown-ups always happy to listen to you	☐	or	☐ do they get angry when you talk
60.	Can you easily stand up in class and talk	☐	or	☐ do you feel shy
61.	Would you rather read funny books	☐	or	☐ do arithmetic
62.	When a small thing upsets you, do you get so mad you want to throw things	☐	or	☐ can you keep calm
63.	Do you like to listen to long stories	☐	or	☐ do you get tired
64.	Do your plans often not work	☐	or	☐ do they work out well
65.	At home would you first help wash the dishes	☐	or	☐ listen to music or TV
66.	When you are hurried do you still put your clothes away	☐	or	☐ just leave them
67.	Do you wish school would not be such a bother	☐	or	☐ is school all right as it is
68.	Do people think that you make many mistakes	☐	or	☐ few mistakes
69.	When you read, do you find it hard to keep your mind on it	☐	or	☐ can you read right on to the end
70.	When mother calls you in the morning, do you just jump right up	☐	or	☐ find it hard to wake up

DID YOU PUT ONE MARK DOWN FOR EVERY STATEMENT? CHECK BACK AND SEE.

Do not write here.
N____ O____ Q_3 ____ Q_4 ____

IPAT

CPQ, Form A

(1963 Edition)

Part A_2

What You Do and What You Think

Print Your Name: First_____ **Last**_____

Your Age_____ **Grade in School**_____ **Boy or Girl**_____

Read each statement and mark an ☒ on the side that fits you better. Some questions will not have the words just the way you want them but mark every one the best you can. You may ask for help if you don't know a word. Just raise your hand and the teacher will come to your desk. Do not work long on one question. Mark it and go right on to the next one. MARK EVERY ONE. Most of the questions have two boxes to choose from but other questions have three boxes. Always look at ALL the boxes and pick just one of them for your answer.

1.	Do you finish your school work quickly	☐	or	☐ does it take you too long
2.	When losing a game, do you sometimes give up and save your energy	☐	or	☐ always play harder
3.	Can you easily persuade your friends to accept your plans	☐	or	☐ is it difficult
4.	*Do you* think many children do better work than you	☐	or	☐ are you as good as anyone else
5.	If the teacher lets another child do a job you want to do, do you feel badly	☐	or	☐ soon forget about it
6.	Do grown-ups think you are naughty	☐	or	☐ well-behaved
7.	Do you find other children take advantage of you	☐	or	☐ are they kind to you
8.	Do you make a lot of mistakes	☐	or	☐ just a few
9.	Do people like your ideas	☐	or	☐ do they not like them
10.	If you got lost, would you know what to do	☐	or	☐ would you be scared

GO RIGHT ON TO THE NEXT PAGE.

DO NOT WRITE BELOW THIS LINE.

FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q_3	Q_4
Part A_1 Raw Score														
Part A_2 Raw Score														
Form A Raw Score = (A_1 + A_2)														
Standard Score														
PROFILE IN STENS 10	•	•	•	•	•	•	•	•	•	•	•	•	•	•
9	•	•	•	•	•	•	•	•	•	•	•	•	•	•
8	•	•	•	•	•	•	•	•	•	•	•	•	•	•
7	•	•	•	•	•	•	•	•	•	•	•	•	•	•
6	•	•	•	•	•	•	•	•	•	•	•	•	•	•
5	•	•	•	•	•	•	•	•	•	•	•	•	•	•
4	•	•	•	•	•	•	•	•	•	•	•	•	•	•
3	•	•	•	•	•	•	•	•	•	•	•	•	•	•
2	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1	•	•	•	•	•	•	•	•	•	•	•	•	•	•
FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q_3	Q_4

In every question, mark just one box.

11. Collect is the opposite of spread ☐ or gather ☐ or save ☐
12. If it is wrong to do something do you still do it sometimes ☐ or ☐ not do it
13. Would you rather be a school teacher ☐ or ☐ a great hunter
14. Can you work where people laugh and talk ☐ or ☐ would you rather they keep still
15. Listen is to hear as look is to walk ☐ or notice ☐ or see ☐
16. Does teacher sometimes say you are careless and untidy ☐ or ☐ does she never say so
17. On a playground do you make a lot of noise ☐ or ☐ play quietly, without so much noise
18. Do you think you could learn to fly an airplane ☐ or ☐ would it be too difficult
19. The next number in 12, 9, 6, —, is 4 ☐ or 3 ☐ or 5 ☐
20. If people pester you, do you just laugh it off ☐ or ☐ do you get angry
21. Would you rather write a book ☐ or ☐ be the main actor in a play
22. Are you good at walking a fence or a log ☐ or ☐ are others better
23. Which one of these does not belong with the others: swim, run, sit, fly run ☐ or fly ☐ or sit ☐
24. In class, do you sit quietly ☐ or ☐ do you like to move about
25. When you get a new game as a present, do you like to try it first yourself ☐ or ☐ have someone show you how to play it
26. Would you rather own a small, friendly dog ☐ or ☐ a big, powerful dog
27. Tom is younger than Bill. Jim is younger than Tom. Who is the oldest Bill ☐ or Jim ☐ or Tom ☐
28. Are you disappointed often ☐ or ☐ hardly ever
29. If teacher scolded you badly, would you cry when you told mother ☐ or ☐ just laugh when you told her
30. Would you rather be the captain of a peaceful ocean liner ☐ or ☐ captain of a sub in war

GO RIGHT ON TO THE NEXT PAGE.

Do not write here.
B____ D____ E____ F____

In every question, mark just one box.

31.	If a dog were barking at you, would you shout, "Shut up!"	☐	or	☐ say, "He's trying to be a good dog"
32.	Do you forget your troubles quickly	☐	or	☐ do you pout for a long time
33.	Can you touch a big bug	☐	or	☐ would you dislike to touch one
34.	Do you wish you were better looking	☐	or	☐ are you good-looking now
35.	Do you usually go straight home	☐	or	☐ play along the way
36.	Do you have a hard time deciding which games to play	☐	or	☐ do you make up your mind quickly
37.	Would you rather go to school	☐	or	☐ go on a long trip in a car
38.	If you were high up on a big rock, would you be scared	☐	or	☐ would you like looking around
39.	When Christmas presents are under the tree, do you ever try to open them	☐	or	☐ do you wait
40.	Do you feel afraid of things that might happen to you	☐	or	☐ are you satisfied with things as they are
41.	Would you rather be an animal doctor	☐	or	☐ a piano player
42.	Do you have fainting spells	☐	or	☐ do you not
43.	When mother is annoyed with you, is it often her fault	☐	or	☐ do you generally feel you were wrong
44.	Does your father do things with you	☐	or	☐ do you not like to bother him when he is busy
45.	When you hear a sad story, do tears come to your eyes	☐	or	☐ are you not bothered
46.	Do people pay enough attention to you	☐	or	☐ do you have to do things to make them notice you
47.	When children ask for help in an exam do you let them do their own work	☐	or	☐ help them unless teacher is watching
48.	If people ask you to do too many things, do you find a way to do them	☐	or	☐ do you get all mixed up
49.	Would you rather be a space pilot	☐	or	☐ an artist
50.	First thing in the morning are you ready for fun	☐	or	☐ are you still tired and sleepy

GO RIGHT ON TO THE LAST PAGE.

Do not write here.
G____ H____ I____ J____

In every question, mark just one box.

51.	Would you rather read short stories	☐	or	☐ a long book
52.	Do you succeed in most things you try	☐	or	☐ do things often go wrong for you
53.	If a classmate calls you a bad name, do you usually fight	☐	or	☐ pretend you do not care
54.	At a loud bang, do you jump	☐	or	☐ just look around
55.	Do you laugh when others make mistakes	☐	or	☐ not laugh at them
56.	Would you rather be called clever	☐	or	☐ nice and kind
57.	Would you rather learn a lesson in school	☐	or	☐ watch a game
58.	When people talk about a place you know well, do you start telling them about it too	☐	or	☐ do you keep quiet until they finish
59.	Are you good because you like to be good	☐	or	☐ because you get into trouble if you are bad
60.	Are you getting along well	☐	or	☐ do you have many problems
61.	Would you rather have someone else keep your room tidy	☐	or	☐ do it yourself
62.	If you don't like the food, do you complain	☐	or	☐ eat it anyway
63.	Do people like best those who are good	☐	or	☐ those who tell clever jokes
64.	Does mother say you talk too much	☐	or	☐ are you quiet
65.	Are you happy to stay with young children	☐	or	☐ won't you stay with them
66.	If friends borrow your things without asking, is it all right	☐	or	☐ are you angry
67.	Do you like better a teacher who is easy to get by	☐	or	☐ one who is strict
68.	When a problem is too hard, do you give it up for a while and forget it	☐	or	☐ keep working on it
69.	When people play a joke on you do you get all upset	☐	or	☐ take it quietly
70.	If you were angry, would you go quietly to your room	☐	or	☐ would you slam the door as you went

DID YOU PUT ONE MARK DOWN FOR EVERY STATEMENT? CHECK BACK AND SEE.

Do not write here.
N____ O____ Q_3 ____ Q_4 ____

CPQ, Form B

(1963 Edition)

Part B_1

What You Do and What You Think

Print Your Name: First _____ **Last** _____

Your Age _____ **Grade in School** _____ **Boy or Girl** _____

Read each statement and mark an ☒ on the side that fits you better. Some questions will not have the words just the way you want them but mark every one the best you can. You may ask for help if you don't know a word. Just raise your hand and the teacher will come to your desk. Do not work long on one question. Mark it and go right on to the next one. MARK EVERY ONE. Most of the questions have two boxes to choose from but other questions have three boxes. Always look at ALL the boxes and pick just one of them for your answer.

1.	Would you like to play with mechanical toys	☐	or	☐ with friends
2.	Does almost everyone like you	☐	or	☐ only some people
3.	Are most of your friends' families nicer than yours	☐	or	☐ not as nice
4.	Can you finish your work faster than others	☐	or	☐ do you take longer
5.	Would you go and speak to a little boy or girl who is crying	☐	or	☐ send someone to his mother for help
6.	Are you usually sure of yourself	☐	or	☐ do you sometimes feel uncertain
7.	Would you rather be a minister in a church	☐	or	☐ a doctor in a hospital
8.	Would you like to start a new club	☐	or	☐ would you rather someone else started it
9.	When people tell about things you have seen, do you think you know better	☐	or	☐ do you just listen and agree with them
10.	When you have started a big job, do you soon forget about it	☐	or	☐ find that you cannot forget it

GO RIGHT ON TO THE NEXT PAGE.

DO NOT WRITE BELOW THIS LINE.

FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q_3	Q_4
Part B_1 Raw Score														
Part B_2 Raw Score														
Form B Raw Score = (B_1 + B_2)														
Standard Score														
10	•	•	•	•	•	•	•	•	•	•	•	•	•	•
9	•	•	•	•	•	•	•	•	•	•	•	•	•	•
8	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PROFILE 7	•	•	•	•	•	•	•	•	•	•	•	•	•	•
IN 6	•	•	•	•	•	•	•	•	•	•	•	•	•	•
STENS 5	•	•	•	•	•	•	•	•	•	•	•	•	•	•
4	•	•	•	•	•	•	•	•	•	•	•	•	•	•
3	•	•	•	•	•	•	•	•	•	•	•	•	•	•
2	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1	•	•	•	•	•	•	•	•	•	•	•	•	•	•
FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q_3	Q_4

In every question, mark just one box.

11. Worried is the opposite of calm ☐ or sleepy ☐ or concerned ☐
12. When others say bad things about you, do you quietly object ☐ or ☐ are your feelings hurt
13. Do you like to cross a busy street ☐ or ☐ are you afraid to cross
14. Would you rather be president of a business ☐ or ☐ a jet pilot
15. Help is to hinder as allow is to deny ☐ or punish ☐ or forbid ☐
16. Do you have few difficulties ☐ or ☐ many
17. Would you rather listen to a teacher ☐ or ☐ talk yourself
18. When something of yours needs fixing, do you ask father to mend it ☐ or ☐ fix it yourself
19. The next number in 2, 4, 8, —, is 10 ☐ or 16 ☐ or 12 ☐
20. Do you ever chew your pencil ☐ or ☐ do you never feel like it
21. Should everyone have his own airplane ☐ or ☐ are family cars enough
22. Are you usually quiet in school ☐ or ☐ do you like to say what you think
23. Which one of these does not belong with the others: many, bad, large, few large ☐ or few ☐ or bad ☐
24. Do you talk back to mother ☐ or ☐ are you afraid
25. When you get angry do you tremble and shake ☐ or ☐ talk loud
26. Would you like to go to the store by yourself ☐ or ☐ have your parents go with you
27. I am Jane. If Jim's father is my father's son, what relation is Jim to me nephew ☐ or brother ☐ or uncle ☐
28. When people ask if you will do something, is it easy to decide ☐ or ☐ hard to decide
29. Do you wish you were so good-looking that people would turn to look ☐ or ☐ don't you like people to look
30. Have you ever sold things to people ☐ or ☐ would you not want to sell things

GO RIGHT ON TO THE NEXT PAGE.

Do not write here.

B____ D____ E____ F____

In every question, mark just one box.

31.	In school, do you do well what is wanted	☐	or	☐ do your friends please teacher better than you do
32.	When people start talking as you listen to TV or radio, does it bother you	☐	or	☐ don't you hear them talking
33.	Do you feel badly if you get to school late	☐	or	☐ is it all right if you are only a few minutes late
34.	If someone says, "Let's all do this," do you say, "Good, let's do it"	☐	or	☐ do you first ask, "Why?"
35.	Would you rather be a cowboy	☐	or	☐ a minister in a church
36.	Do you think that grown-ups understand you well	☐	or	☐ do they hurt your feelings
37.	Would you rather go on a hike	☐	or	☐ read a good book
38.	When your friends fight, do you try to settle it for them	☐	or	☐ do you just leave them alone
39.	Are you sad when mother is cross with you	☐	or	☐ do you soon forget about it
40.	When with strangers, do you feel you can go up and speak to them	☐	or	☐ are you afraid to
41.	To help mother, would you rather draw some pictures for her	☐	or	☐ clean up your room
42.	Which story would you like better, one about a new machine	☐	or	☐ a famous general
43.	Do you help the new children at school	☐	or	☐ let the other children help them
44.	Do grown-ups talk all the time	☐	or	☐ often listen to you
45.	When you cannot go out, do you complain	☐	or	☐ don't you care
46.	Would you rather have a small dog	☐	or	☐ a baseball set
47.	On a playground, do you do what you want to do	☐	or	☐ do what most people want
48.	Do you worry about being punished	☐	or	☐ does it never worry you
49.	Do you like to see beautiful scenery	☐	or	☐ watch a bulldozer
50.	Do you worry about not getting good grades in school	☐	or	☐ are you sure you will do well

GO RIGHT ON TO THE LAST PAGE.

Do not write here.

G____ H____ I____ J____

In every question, mark just one box.

51.	Do you look arithmetic problems over to correct mistakes	☐	or	☐ finish up quickly
52.	Are your troubles big	☐	or	☐ small
53.	Would you rather tell your mother about things at school	☐	or	☐ about a visit to a farm
54.	Do you think you are always polite	☐	or	☐ are you perhaps a little too noisy
55.	Would you rather talk to people	☐	or	☐ show them a game you know
56.	Do you feel lonely and sad often	☐	or	☐ hardly ever
57.	On days when there is no school, do you just do whatever comes up	☐	or	☐ plan what you will do for the day
58.	Do you get up early	☐	or	☐ like to sleep late
59.	Would you rather go on a walk with a friend	☐	or	☐ go to a picnic with mother
60.	If you do something wrong, do you worry about it a lot	☐	or	☐ soon forget it
61.	At the end of the day, is it easy to sit still	☐	or	☐ do you move around a lot in your chair
62.	Do you make your bed yourself	☐	or	☐ do you leave it for mother to make
63.	Would you rather see a movie about cowboys and Indians	☐	or	☐ about how people in another country live
64.	When you start new things, do you do them fast	☐	or	☐ slowly
65.	Do you think school has too much punishment	☐	or	☐ do you think school is fun
66.	If people tease you do you get angry and shout	☐	or	☐ walk away and leave them
67.	Do you finish all your jobs	☐	or	☐ do you sometimes leave some unfinished
68.	Do you have a good time	☐	or	☐ do things go wrong
69.	When you are playing, do you usually keep the rules	☐	or	☐ sometimes break them
70.	If children play with your things without asking, do you shout at them	☐	or	☐ do you let them play

DID YOU PUT ONE MARK DOWN FOR EVERY STATEMENT? CHECK BACK AND SEE.

Do not write here.

N____ O____ Q_3____ Q_4____

IPAT

CPQ, Form B
(1963 Edition)

Part B_2

What You Do and What You Think

Print Your Name: First_____ Last_____

Your Age_____ **Grade in School**_____ **Boy or Girl**_____

Read each statement and mark an ☒ on the side that fits you better. Some questions will not have the words just the way you want them but mark every one the best you can. You may ask for help if you don't know a word. Just raise your hand and the teacher will come to your desk. Do not work long on one question. Mark it and go right on to the next one. MARK EVERY ONE. Most of the questions have two boxes to choose from but other questions have three boxes. Always look at ALL the boxes and pick just one of them for your answer.

1.	If children don't play with you, do you feel badly	☐	or	☐ do you start another game
2.	Do wonderful things happen every day	☐	or	☐ are most days rather dull
3.	Does mother say you are too slow	☐	or	☐ do you do things quickly
4.	When walking across a narrow bridge, do you like looking down at the water	☐	or	☐ does the height upset you
5.	Can you remember people's names	☐	or	☐ do you forget them easily
6.	Do you think you will do well when you grow up	☐	or	☐ just fair
7.	Does the teacher ever praise you in class	☐	or	☐ not say anything about you
8.	Can you always do things well	☐	or	☐ some days are you not much good at things
9.	Do you like just one close friend	☐	or	☐ lots of them
10.	Do you wish your mother would help you more	☐	or	☐ does she help you too much

GO RIGHT ON TO THE NEXT PAGE.

DO NOT WRITE BELOW THIS LINE.

FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q_2	Q_4
Part B_1 Raw Score														
Part B_2 Raw Score														
Form B Raw Score = $(B_1 + B_2)$														
Standard Score														
10	•	•	•	•	•	•	•	•	•	•	•	•	•	•
9	•	•	•	•	•	•	•	•	•	•	•	•	•	•
8	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PROFILE 7	•	•	•	•	•	•	•	•	•	•	•	•	•	•
IN 6	•	•	•	•	•	•	•	•	•	•	•	•	•	•
5	•	•	•	•	•	•	•	•	•	•	•	•	•	•
STENS 4	•	•	•	•	•	•	•	•	•	•	•	•	•	•
3	•	•	•	•	•	•	•	•	•	•	•	•	•	•
2	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1	•	•	•	•	•	•	•	•	•	•	•	•	•	•
FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q_2	Q_4

In every question, mark just one box.

11. Shy is the opposite of bold ☐ or big ☐ or timid ☐
12. When you get good news, do you take it quietly ☐ or ☐ do you have to dance up and down
13. Do you think your ideas are right and good ☐ or ☐ are you not sure
14. Are you afraid in the dark ☐ or ☐ is there nothing to be afraid of
15. Walk is to run as slow is to ride ☐ or snail ☐ or fast ☐
16. Are you usually quiet ☐ or ☐ do you talk a lot
17. When you get angry do you want to cry and pout ☐ or ☐ to smash things on purpose
18. Would you rather learn how to play the piano ☐ or ☐ to drive a car
19. The next number in 1, 4, 7, —, is 9 ☐ or 10 ☐ or 8 ☐
20. Do people say you have a temper ☐ or ☐ are you easy to get along with
21. When mother is angry with you, do you feel all right anyway ☐ or ☐ feel like crying
22. When you have to see the doctor, is it hard to be brave ☐ or ☐ don't you care a bit
23. Which one of these does not belong with the others: some, all, often, none all ☐ or none ☐ or often ☐
24. Do you sometimes feel like disobeying older people ☐ or ☐ never feel that way
25. When you grow up would you rather be a lawyer in an office ☐ or ☐ fly a plane
26. If you have torn a book, would you return it to the library ☐ or ☐ try to repair it first
27. When Joe was as old as Sue is now, Ann was older than he. Who is youngest Sue ☐ or Ann ☐ or Joe ☐
28. When people laugh at you, do you laugh too ☐ or ☐ do you get mad at them
29. When a visitor comes to your house do you talk to him first ☐ or ☐ do you feel too shy
30. Are you happy to study in a noisy room ☐ or ☐ should your study room be quiet

GO RIGHT ON TO THE NEXT PAGE.

Do not write here.

B____ D____ E____ F____

In every question, mark just one box.

31.	Do you listen to the news sometimes	☐	or	☐ always go to play when it comes on
32.	Do you think your classmates sometimes laugh at you	☐	or	☐ don't they ever
33.	Would you rather play checkers	☐	or	☐ baseball
34.	When you have a new idea, do you tell it	☐	or	☐ keep it to yourself
35.	Would you rather be a bus driver	☐	or	☐ a doctor
36.	Do you tell jokes well	☐	or	☐ find it hard
37.	Can you easily forget your mistakes	☐	or	☐ do they worry you
38.	Would you rather go out with your parents	☐	or	☐ with your good friends
39.	Do you help a lot around the house	☐	or	☐ just a little
40.	After school, do you play games	☐	or	☐ do you generally not feel like it
41.	Do you like to stay after school with the teacher	☐	or	☐ would you rather play
42.	Are your ideas better than the other children's	☐	or	☐ generally not quite so good
43.	Do you like to do new things	☐	or	☐ would you rather do those things you know best
44.	Are adults sometimes difficult	☐	or	☐ are they mostly kind
45.	Do you like to read about wars and battles	☐	or	☐ do they frighten you
46.	Are you scared of being spanked	☐	or	☐ just a little scared
47.	When your parents have visitors do you run away and play	☐	or	☐ stop to talk with them
48.	Do children tease you	☐	or	☐ do they never tease you
49.	Do you get upset when you quarrel with your friends	☐	or	☐ don't you mind
50.	Is it hard to act as old as you are	☐	or	☐ do you feel more grown-up than your age

GO RIGHT ON TO THE LAST PAGE.

Do not write here.

G____ H____ I____ J____

In every question, mark just one box.

51.	Would you rather make something the way teacher says is best	☐	or	☐ do it the way you think best
52.	If your mother is sad, do you feel sad too	☐	or	☐ try to cheer her up
53.	When the class makes noise, do you sit quietly	☐	or	☐ add to the noise
54.	Are you happy to see your school friends	☐	or	☐ sometimes do you not want to see people
55.	When a star twinkles at you, does it seem to smile	☐	or	☐ does it seem cold and far away
56.	Would you rather be an actor	☐	or	☐ a scientist
57.	In school do you work because the teacher might punish you	☐	or	☐ because you like to study
58.	When you get angry, do you keep silent	☐	or	☐ do you talk back
59.	Do you like to keep arguing	☐	or	☐ to stop as soon as you can
60.	Do you sometimes like to just sit and feel hopeless	☐	or	☐ are you always on the go
61.	Would you rather do your work	☐	or	☐ try to get someone else to do it for you
62.	Do you do your homework and your chores at the same time each day	☐	or	☐ at any time
63.	If you were a teacher, would you let the children be noisy	☐	or	☐ would you make them be quiet
64.	Can you read well	☐	or	☐ do most children read better
65.	When playing do you complain a little when you do not win	☐	or	☐ do you keep quiet
66.	When your school work is wrong, do you feel it is no use	☐	or	☐ do you feel you must do better
67.	Do you do things you should do	☐	or	☐ things you like to do
68.	Do you think you could learn to fly an airplane	☐	or	☐ would you rather be a policeman
69.	If one of your friends is unkind to you, do you forgive him	☐	or	☐ feel you must get even with him
70.	Do you often fight for your rights	☐	or	☐ do you keep quiet in quarrels

DID YOU PUT ONE MARK DOWN FOR EVERY STATEMENT? CHECK BACK AND SEE.

Do not write here.

N____ O____ Q_3____ Q_4____

Time

PART II

Score

13. POST-HYPNOTIC SUGGESTION (Reinduction)

____ (3) Closes eyes within time limit and apparently relaxes body.
____ (2) Closes eyes without apparent body relaxation, or eyes remain open but become glazed and apparently puzzled.
____ (1) Partial response indicating clap has had some meaning, but no sign of eye closure, dazedness, or body relaxation.
____ (0) No significant response, and only closes eyes when specifically instructed.

14. VISUAL AND AUDITORY HALLUCINATION (Television)

____ (3) Substantially completes suggested sequence: e.g. sees T.V. set, turns it on, sees picture clearly, describes scene meaningfully.
____ (2) Completes significant portion of sequence with some failure: e.g. sees T.V. set, turns it on, but cannot see the picture clearly or describe the program well.
____ (1) Fails most of sequence: e.g. sees T.V. set, but does not turn it on, etc.
____ (0) No apparent response: e.g. does not see T.V. set.

15. COLD HALLUCINATION

____ (3) Apparent blanching of skin, temperature change, or goose bumps, and/or appropriate motor responses: e.g. juggling or dropping stick.
____ (2) Appropriate verbal response of cold sensation, but no motor or other changes.
____ (1) Repeated indecision ("I'm not sure if it feels cold.") without non-verbal positive indicators.
____ (0) No cold response of any kind.

16. ANESTHESIA

On first trial:

____ (1) Feels point, but no pain.
____ (0) Feels pain and/or withdraws hand.

Any other response, give second trial.

On second trial:

____ (3) Does not feel anything.
(2) Indicates awareness of stimulus, but cannot clearly describe it.
____ (1) Feels point, but no pain.
(0) Feels pain and/or withdraws hand.

17. TASTE HALLUCINATION

____ (3) Substantially completes suggested sequence: e.g. takes stick into mouth, makes licking movements, describes appropriate taste sensation.
____ (2) Completes significant portion of sequence with some inadequacies: e.g., experiences only very slight or vague taste sensations.
____ (1) Completes sequence but denies effect: e.g. "It tastes like wood."
(0) No sequence.

18. SMELL HALLUCINATION (Perfume)

____ (3) Affirms and describes odor of perfume.
(2) Affirms odor of perfume, but does not elaborate or describe it.
____ (1) Smells something, but not sure it smells like perfume.
____ (0) Smells nothing, or smells bad odor.

Score

19. VISUAL HALLUCINATION (Rabbit)

____ (3) Substantially completes suggested sequence: e.g. picks up rabbit, cuddles, describes it.
____ (2) Completes significant portion of sequence with some inadequacies: e.g. sees rabbit and describes it, but does not pick it up.
____ (1) Not sure he sees rabbit and performs most of sequence vaguely or inappropriately.
____ (0) Does not see rabbit.

20. AGE REGRESSION

General sequence involves three parts: (a) Verbalizations that are not inconsistent with the role of a younger child, (b) Changes in writing own name, and (c) Changes in figure drawing. For name writing, changing from writing to printing is the most general expectation, though not required. For both (b) and (c), performance changes must be in the direction of sloppier and/or simpler drawing and writing, particularly relative to the prehypnotic performance.

____ (3) Completes sequence appropriately, i.e. no negations on questions and apparent changes downward on both name and drawings. Regressed drawing cannot be *better* than hypnotic drawing, but it need not be worse so long as hypnotic drawing is simpler, etc. than prehypnotic drawing.
____ (2) Qualifies on either name or drawing or both regardless of responses to questions.
____ (1) Neither name nor drawing show regression, but no negation on questions.
____ (0) No changes on either name or drawing and negative responses to questions.

21. DREAM

____ (3) Reports spontaneously and without appearance of concocting story as he goes, and/or some elaboration or emotionality (giving the appearance of impact on the child).
____ (2) Perfunctory report or lack of emotionality, but does not appear to be composing the story during the report.
____ (1) Same as (2), but appears to be composing.
____ (0) No response or negation.

22. AWAKENING AND POST-HYPNOTIC-SUGGESTION

____ (3) Substantially completes suggested sequence: e.g. awakens, looks down at rabbit, recites name.
____ (2) Completes significant portion of sequence with some inadequacies: e.g. looks down but says, "He can't ask my name, rabbits don't talk."
____ (1) Fails most of sequence: e.g. "I'm supposed to tell him my name, but there isn't any rabbit there."
____ (0) No apparent response: e.g. neither looks down nor tells name.

TOTAL_____
Enter on Front

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JUNIOR EYSENCK PERSONALITY INVENTORY

by Sybil B. G. Eysenck

NAME .....

AGE..... SEX.....

E= ☐ N= ☐ L= ☐

Instructions

Here are some questions about the way you behave, feel and act. After each question is a space for answering "YES" or "NO".

Try to decide whether "YES" or "NO" is your usual way of acting or feeling. Put a ruler or a sheet of paper under each question and then put a cross in the circle under the column headed "YES" or "NO". Work quickly, and don't spend too much time over any question. Be sure not to leave out any questions.

UNIVERSITY OF LONDON PRESS LTD

E ○ N ○ L ○

REMEMBER TO ANSWER EACH QUESTION

		YES	NO
1.	Do you like plenty of excitement going on around you?	○	○
2.	Do you often need kind friends to cheer you up?	○	○
3.	Do you nearly always have a quick answer when people talk to you?	○	○
4.	Do you sometimes get cross?	○	○
5.	Are you moody?	○	○
6.	Would you rather be alone instead of meeting other children?	○	○
7.	Do ideas run through your head so that you cannot sleep?	○	○
8.	Do you always do as you are told at once?	○	○
9.	Do you like practical jokes?	○	○
10.	Do you ever feel "just miserable" for no good reason?	○	○
11.	Are you rather lively?	○	○
12.	Have you ever broken any rules at school?	○	○
13.	Do lots of things annoy you?	○	○
14.	Do you like doing things where you have to act quickly?	○	○
15.	Do you worry about awful things that might happen?	○	○
16.	Can you always keep every secret?	○	○
17.	Can you get a party going?	○	○
18.	Do you get thumping in your heart?	○	○
19.	When you make new friends do you usually make the first move?	○	○
20.	Have you ever told a lie?	○	○
21.	Are you easily hurt when people find fault with you or the work you do?	○	○
22.	Do you like telling jokes or funny stories to your friends?	○	○
23.	Do you often feel tired for no good reason?	○	○
24.	Do you always finish your homework before you play?	○	○
25.	Are you usually happy and cheerful?	○	○
26.	Are you touchy about some things?	○	○
27.	Do you like mixing with other children?	○	○
28.	Do you say your prayers every night?	○	○
29.	Do you have "dizzy turns"?	○	○
30.	Do you like playing pranks on others?	○	○
31.	Do you often feel fed-up?	○	○
32.	Do you sometimes boast a little?	○	○
33.	Are you mostly quiet when you are with others?	○	○
34.	Do you sometimes get so restless that you cannot sit in a chair long?	○	○
35.	Do you often make up your mind to do things suddenly?	○	○
36.	Are you always quiet in class, even when the teacher is out of the room?	○	○
37.	Do you have many frightening dreams?	○	○
38.	Can you usually let yourself go and enjoy yourself at a gay party?	○	○
39.	Are your feelings rather easily hurt?	○	○
40.	Have you ever said anything bad or nasty about anyone?	○	○
41.	Would you call yourself happy-go-lucky?	○	○
42.	Do you worry for a long while if you feel you have made a fool of yourself?	○	○
43.	Do you often like a rough and tumble game?	○	○
44.	Do you always eat everything you are given at meals?	○	○
45.	Do you find it very hard to take no for an answer?	○	○
46.	Do you like going out a lot?	○	○
47.	Do you sometimes feel life is just not worth living?	○	○
48.	Have you ever been cheeky to your parents?	○	○
49.	Do other people think of you as being very lively?	○	○
50.	Does your mind often wander off when you are doing a job?	○	○
51.	Would you rather sit and watch than play at parties?	○	○
52.	Do you find it hard to get to sleep at nights because you are worrying about things?	○	○
53.	Do you usually feel fairly sure you can do the things you have to?	○	○
54.	Do you often feel lonely?	○	○
55.	Are you shy of speaking first when you meet new people?	○	○
56.	Do you often make up your mind when it is too late?	○	○
57.	When children shout at you, do you shout back?	○	○
58.	Do you sometimes feel specially cheerful and at other times sad without any good reason?	○	○
59.	Do you find it hard to really enjoy yourself at a lively party?	○	○
60.	Do you often get into trouble because you do things without thinking first?	○	○

PLEASE CHECK TO SEE THAT YOU HAVE ANSWERED *ALL* THE QUESTIONS

STRICTLY CONFIDENTIAL

CHILD SCALE A

TO BE COMPLETED BY PARENTS

FOR OFFICE USE ONLY

Name of Child ..... Boy/Girl Date of Birth .....

Address ..... School .....

.....

.....

HOW TO FILL IN THIS FORM

The questionnaire asks about various kinds of behaviour that many children show at some time. Please cross the answers according to the way your child is now.

HEALTH PROBLEMS.

Below is a list of minor health problems which most children have at some time. Please tell us how often each of these happens with your child by putting a cross in the correct box.

	(i) Never in the last year	(ii) Less often than once per month	(iii) At least once per month	(iv) At least once per week	FOR OFFICE USE ONLY
A. Complains of headaches	☐	☐	☐	☐	☐
B. Has stomach-ache or vomiting	☐	☐	☐	☐	☐
C. Complains of biliousness	☐	☐	☐	☐	☐
D. Wets his/her bed or pants	☐	☐	☐	☐	☐
E. Soils him/herself or loses control of bowels	☐	☐	☐	☐	☐
F. Has temper tantrums (that is, complete loss of temper with shouting, angry movements, etc.)	☐	☐	☐	☐	☐
G. Had tears on arrival at school or refused to go into the building	☐	☐	☐	☐	☐
H. Truants from school	☐	☐	☐	☐	☐

HABITS. Please place a cross against the correct answer.

I. Does he/she stammer or stutter? ... ... ☐ No. ☐ Yes—mildly. ☐ Yes—severely. ☐

II. Has he/she any difficulty with speech other than stammering or stuttering? ... ... ☐ No. ☐ Yes—mild. ☐ Yes—severe. ☐

If "Yes", is the difficulty ☐

- ☐ "lisping"
- ☐ cannot say words properly
- ☐ other, please describe: .....

.....

III. Does he/she ever steal things? ☐ No. ☐ Yes—occasionally. ☐ Yes—frequently. ☐

If "Yes" (occasionally or frequently),

when he/she steals, does it involve ☐

- ☐ minor pilfering of pens, sweets, toys, small sums of money, etc.
- ☐ stealing of big things
- ☐ both minor pilfering and stealing of big things

when he/she steals, is it done ☐

- ☐ in the home
- ☐ elsewhere
- ☐ both in the home and elsewhere

when he/she steals, does he/she do it ☐

- ☐ on his/her own
- ☐ with other children or adults
- ☐ sometimes on his/her own, sometimes with others

IV. Does he/she have any eating difficulty? ... ... ☐ No. ☐ Yes—mild. ☐ Yes—severe. ☐

If "Yes", is it ☐

- ☐ faddiness
- ☐ not eating enough
- ☐ eating too much
- ☐ other, please describe: .....

.....

V. Does he/she have any sleeping difficulty? ... ... ☐ No. ☐ Yes—mild. ☐ Yes—severe. ☐

If "Yes", is it difficulty in ☐

- ☐ getting off to sleep
- ☐ waking during the night
- ☐ waking early in the morning
- ☐ other, please describe: .....

.....

FOR OFFICE USE ONLY

Below are a series of descriptions of behaviour often shown by children. After each statement are three columns—"Doesn't Apply," "Applies Somewhat", and "Certainly Applies." If your child definitely shows the behaviour described by the statement place a cross in the box under "Certainly Applies." If he or she shows the behaviour described by the statement but to a lesser degree or less often, place a cross under "Applies Somewhat". If, as far as you are aware, your child does not show the behaviour, place a cross under "Doesn't Apply."

Please put one cross against each statement.

STATEMENT	*Doesn't Apply*	*Applies Somewhat*	*Certainly Applies*	
1. Very restless. Often running about or jumping up and down. Hardly ever still	☐	☐	☐	☐
2. Squirmy, fidgety child	☐	☐	☐	☐
3. Often destroys own or others' belongings	☐	☐	☐	☐
4. Frequently fights with other children	☐	☐	☐	☐
5. Not much liked by other children	☐	☐	☐	☐
6. Often worried, worries about many things	☐	☐	☐	☐
7. Tends to do things on his own—rather solitary	☐	☐	☐	☐
8. Irritable. Is quick to 'fly off the handle'	☐	☐	☐	☐
9. Often appears miserable, unhappy, tearful or distressed	☐	☐	☐	☐
10. Has twitches, mannerisms or tics of the face or body	☐	☐	☐	☐
11. Frequently sucks thumb or finger	☐	☐	☐	☐
12. Frequently bites nails or fingers	☐	☐	☐	☐
13. Is often disobedient	☐	☐	☐	☐
14. Cannot settle to anything for more than a few moments	☐	☐	☐	☐
15. Tends to be fearful or afraid of new things or new situations ...	☐	☐	☐	☐
16. Fussy or over-particular child	☐	☐	☐	☐
17. Often tells lies	☐	☐	☐	☐
18. Bullies other children	☐	☐	☐	☐

ARE THERE ANY OTHER PROBLEMS?

Signature: Mr./Mrs./Miss.....

THANK YOU VERY MUCH FOR YOUR HELP.

THE BARBER SUGGESTIBILITY SCALE.

Subject's Name .....; Sex .....

Age .....; Date .....; Experimenter's Name .....;

Experimental procedure .....;

	Objective. Score	Subjective. Score
1. Arm Lowering Arm down: inches	.....	.....
2. Arm Levitation Arm up: inches	.....	.....
3. Hand Lock Hands opened before 5 sec. .....; Hands opened after 5 sec. .....; Hands not opened after 15 sec. .....;	.....	.....
4. Thirst "Hallucination" Swallowed .....; moved mouth .....; licked lips .....; felt thirsty ....;	.....	.....
5. Verbal Inhibition Said name before 5 sec.....; Said name after 5 sec. .....; Did not say name after 15 sec. .....;	.....	.....
6. Body Immobility Got up before 5 sec. ....; Got up after 5 sec. .....; Did not stand up after 15 sec. .....;	.....	.....
7. "Posthypnotic-like" Response Did cough .....; didn't cough .....;	.....	.....
8. Selective Amnesia Remembered amnesic task .....; didn't remember until given permission .....;	.....	.....
TOTAL SCORE	.....	.....

SUBJECTIVE SCORES.

1. "When I said that your right arm was heavy and was coming down, did your arm feel heavy or did you just let it come down in order to follow instructions or to please me ? "

2. "When I said that your left arm felt light and was rising, did your arm feel light or did you raise it deliberately in order to follow instructions or to please me ? "

3. "When I said that your hands were stuck and you couldn't take them apart, did you actually feel that you couldn't take your hands apart or did you keep your hands together in order to follow instructions or to please me ? "

4. "When I said that you were becoming very thirsty, did you actually become very thirsty or did you just act as if you were thirsty in order to follow instructions or to please me ? "

5. "When I said that you couldn't say your name, did you actually feel that you couldn't speak your name or did you just go along with the suggestion in order to follow instructions or to please me ? "

6. "When I said that you were stuck in the chair, did you feel that you were stuck and unable to stand up or did you just go along with the suggestion to follow instructions or to please me ? "

7. "When I clicked and you coughed, did you feel that you coughed automatically or did you cough deliberately in order to follow instructions or to please me ? "

8. "Did you actually forget that I had said that your arm was rising or or did you just act as if you had forgotten in order to follow instructions or to please me ? ".

CHILDREN'S HYPNOTIC SUSCEPTIBILITY SCALE

SCORING & OBSERVATION FORM

*Child's Name*_____ *Session #*_____

	Year	*Month*	*Day*
Date	_____	_____	_____
Birthdate	_____	_____	_____
Age:	_____	_____	_____

*Hypnotist*_____

*Observer*_____

*Score*_____

using (check one):
____ 4-point scale
____ + — scale

Standard scoring procedures call for a four-point scale and it is recommended that performances be recorded in this manner. Those who prefer a simple Pass (+) vs. Fail (—) dichotomy may later reduce scores to such a scale by counting 0 and 1 scores as Fail (—) and 2 and 3 scores as Pass (+).

Try to record time in the left hand margin, but remember that observations of behavior are more important than precise time records. In the blank space under each item, make special note of the child's apparent subjective reaction to the experience, e.g. is he particularly sluggish? alert? sober? amused? How hard does he seem to be trying on the challenge items? Do some of his responses appear to be "unconsciously" determined, e.g. does response to post-hypnotic suggestion seem natural and unstudied or merely compliant?

Check the appropriate response in each item and enter its number on line at right.

PART I

Time		Score
___	**1. POSTURAL SWAY** (Score only on first attempt, i.e., on basis of performance during initial reading of Paragraphs 2, 3, and 4.) ____ (3) Falls. ____ (2) Loses balance and recovers without falling. ____ (1) Sways, but does not lose balance. ____ (0) Little or no swaying, no loss of balance.	____
____	**2. EYE CLOSURE** ____ (3) Eyes close and remain closed before examiner completes Paragraph 5. ____ (2) Eyes close within 10 seconds after completion of Paragraph 5, or close before time limit but occasionally reopen briefly. ____ (1) Becomes drowsy, but eyes do not close within limit. ____ (0) No marked drowsiness, and only closes eyes when specifically told to do so.	____
____	**3. HAND LOWERING** (Left) ____ (3) Hand rises less than 1″ from chair by time limit, or with slow, effortful movement, up to 3″. ____ (2) Hand rises from 1″ to 3″ by time limit, or with slow, effortful movement, up to 4″. ____ (1) Hand rises from 3″ to 6″, relatively easy, smooth, rapid movement. ____ (0) Hand rises more than 6″, relatively easy, smooth, or rapid motion.	____
____	**4. ARM IMMOBILIZATION** (Left) ____ (3) Hand lowers to resting position within time limit. ____ (2) Hand moves through 30 degree arc or more, but does not lower to rest. ____ (1) Hand lowers through less than 30 degree arc. ____ (0) Hand does not move noticeably.	____

CHILDREN'S HYPNOTIC SUSCEPTIBILITY SCALE

SCORING & OBSERVATION FORM

*Child's Name*_____ *Session #*_____

	Year	*Month*	*Day*
Date	_____	_____	_____
Birthdate	_____	_____	_____
Age:	_____	_____	_____

*Hypnotist*_____

*Observer*_____

*Score*_____

using (check one):
____ 4-point scale
____ + — scale

Standard scoring procedures call for a four-point scale and it is recommended that performances be recorded in this manner. Those who prefer a simple Pass (+) vs. Fail (—) dichotomy may later reduce scores to such a scale by counting 0 and 1 scores as Fail (—) and 2 and 3 scores as Pass (+).

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Check the appropriate response in each item and enter its number on line at right.

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___	**4. ARM IMMOBILIZATION** (Left) ____ (3) Hand lowers to resting position within time limit. ____ (2) Hand moves through 30 degree arc or more, but does not lower to rest. ____ (1) Hand lowers through less than 30 degree arc. ____ (0) Hand does not move noticeably.	____